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## Psychiatric Problems in General Practice

### A Symposium

THE FOLLOWING PRESENTATIONS were intended as an aid to medical practitioners other than psychiatrists for a better understanding and handling the various psychiatric problems that they might meet in their practices.

Originally presented jointly by the Southern California Psychiatric Society, district branch of the American Psychiatric Association, and the General Practice Section of the Los Angeles County Medical Association as a postgraduate seminar in 1957, it was so well received that it was felt that practitioners throughout the state could find the material of interest and use.

### Psychopharmacology of Drugs

I. ARTHUR MARSHALL, M.D., Los Angeles

SO MUCH PUBLICITY has been given to the so-called new miracle tranquilizer drugs—those “happiness” pills which promise release from anxiety and tension—that it is well to recall that there is nothing new either in the use of such drugs or in the susceptibility of the public to trust in their promise. At least as old as recorded history is the use of depressants, euphorics and hallucigens for the temporary relief of tension, and of excitants for stimulation of energy and mood. While pharmacology has given us a whole new host of synthetics as well as

chemical refinements of ancient drugs and improved methods of extraction, it has not as yet introduced any new natural agent in this drug group that was not already known to primitive man.

Since the subject here discussed is the psychopharmacology of drugs, no attempt will be made to define or differentiate in detail between the various chemical properties of the drugs mentioned. My purpose, rather, is to examine these drugs as they are used to affect or bring changes in the psychological homeostasis of the patient. No responsible physician, certainly, would minimize the important role that the tranquilizer drugs have in the treatment of emotional disturbances. They have brought relief from anxiety; they have reduced or eliminated violent behavior in agitated patients; they have often made patients amenable to therapy who could not before be reached. But they have not cured—nor are they likely to do so. Intelligently used, they can be an effective aid in treatment. Used indis-

From the Department of Psychiatry, University of Southern California School of Medicine, Los Angeles.

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criminally, they can precipitate psychological as well as physiological catastrophe.

By far the most dramatic results with these drugs have been achieved in mental hospitals where psychotic patients have frequently shown astonishing improvement when given them. The judicious use of tranquilizing drugs, along with proper supervision by the hospital staff or a physician treating a patient at home has been of incalculable value. It is in the use of these drugs as they are prescribed to effect a change in the psychophysiological state of the outpatient that greater caution must be exercised. The largest number of outpatients who are treated by physicians for psychogenic disturbances fall, loosely, into a group whose emotional maladaptations are due to unresolved unconscious conflicts and who attempt to resolve these unconscious emotional conflicts in a manner that handicaps their effectiveness in living. They may have tension, depression, increased excitability of the nervous system, anxiety, headaches, generalized pains, weakness, dizziness or palpitations.

The prescribing of tranquilizing drugs for such patients is directed toward the alleviation of these symptoms by their depressant action upon the central nervous system. While the drugs may achieve the therapeutic aim of relieving, temporarily, the symptoms, in no way do the drugs attack the problems which precipitated the symptoms. The magic pill which will solve personal problems has not yet been invented. Resolution of a problem demands thought. Drugs relieve some of the feelings and distress that come with thinking. Indeed, a sufficiently high dosage can make it impossible to think at all. But when the drug is withdrawn, feelings and thinking return. Unless the problem which precipitated the symptoms has been attacked, nothing has been accomplished except to give the patient for a short period a feeling of self-transcendence. When tranquilizers are prescribed for patients, it is important that, concurrently, some form of therapy be attempted. This does not mean that the patient must be under the care of a psychiatrist, but it does mean that with the writing of a prescription for a tranquilizing drug, the physician should allow for time in which the patient can ventilate about his problems.

Of the tranquilizers, the phenothiazines and rauwolfia drugs have been the most effective in reducing psychological tensions. Both are depressants and have many properties in common, although their clinical effects, in large dosages, are often dissimilar. Both drugs can produce a variety of side effects which can be relieved either through reduction of dosage or withdrawal of the drug. Because of the depressant action of both these drugs upon the sympathetic nervous system, they should never

be prescribed for depressed states. Since both drugs can also induce depression, it is important that the patient be closely supervised by the physician and that the physician allow sufficient time during office visits to understand what is going on emotionally with the patient. Drug-induced depressions can be alleviated by dosage reduction or withdrawal of the drug. In cases of severe depression, electric shock may be necessary.

The meprobamates and the diphenyl methanes are likewise depressants but because they have relatively few side effects are the most widely used in everyday practice. Recommended for "milder states of nervous system hyperactivity" they can, when used in large dosages, produce drowsiness, dizziness, nausea, blurring of speech and impairment of muscular coordination and of motor responses. They can decrease the patient's ability to concentrate. In smaller dosage they produce less intense effects; and because there is a relative absence of toxic and allergic side effects, patients often yield to the temptation of using them indiscriminately, to say nothing of passing them on to a neighbor.

Another group of drugs all too frequently used to produce changes in consciousness or emotional equilibrium are the amphetamines. The amphetamines, to my mind, require very careful examination as to the psychological repercussions following their use. At first the amphetamines bring about a feeling of well being; fatigue fades; a swell of energy surges through the body; depression is lifted; the spirit soars, and temporarily, there is a feeling of self-transcendence. (These effects have been achieved from time immemorial through the use of opium and hashish, yet rare is the user of an amphetamine who would not be shocked to have his dependence on the amphetamine compared with resorting to these more ancient drugs. The difference is only one of degree; at best we can only say that the amphetamine is less harmful.) As the amphetamine wears off, it is followed by depression, fatigue, and insomnia often severe enough to require sedation. Very soon patients using amphetamines find that dosage must be increased and a vicious cycle of stimulating oneself during the day and resorting to sedation at night begins.

Fatigue is a signal that the body requires rest. The amphetamine eliminates this signal without restoring to the body the necessary ingredients for renewed energy, and, in fact, stimulates the tired mechanism of the organism to efforts for which natural energy is absent. Resorting to amphetamines to combat fatigue is not unlike putting ethyl alcohol or ether into a worn motor. It may make a car run effectively for a short time, but very soon the cylinders will give way.



This is not to say that there are not times when good medical practice indicates the need for amphetamines. My objection is to the use of them in such a way as to obscure a psychological problem.

Just as fever is an indication that something is wrong with the functioning of the physiological mechanism of the body, so are anxiety, depression, fatigue or prolonged insomnia signals of increased "fever" in the psychological mechanism. Just as fever ought not be alleviated without effort to determine the cause, so these signals must be examined and evaluated before chemotherapy to reduce or eliminate them are prescribed.

Tension, frustration and anxiety have existed in all ages and in all cultures, and probably will continue to plague us so long as man strives. The goal of chemotherapy and psychotherapy cannot then be to eliminate these feelings and reactions merely for

the sake of achieving tranquillity, unless we are prepared to produce human vegetables.

The goal of therapy, whether chemical or psychological, should not be merely to effect a state of blissfulness. The goal, rather, should be to use all the therapeutic tools at hand to enable men and women to participate actively in their environment and to cope with the realities of that environment. A sense of well-being cannot for long be achieved by obscuring the presence of conflicts and dangers, but only by recognizing and dealing with them. The patient must learn how to use his energies toward handling conflicts, removing them when possible, or changing those areas which create threatening situations for him. And through it all, he must learn how to cope with his feelings as he is reacting to his environment.

14140 Ventura Blvd., Sherman Oaks.

## Psychiatric Emergencies

STEVEN D. SCHWARTZ, M.D., Los Angeles

HEIGHTENED INTEREST in the early recognition and prompt treatment of psychiatric emergencies in medical practice has come in part from the changing pattern of medical illnesses dealt with by general physicians, who now less often treat acute infectious inflammatory diseases and more often of the intermittent disabling illnesses consisting mostly of psychosomatic disorders, emotional states and geriatric problems. These illnesses are most frequently seen initially by physicians in general practice, who are in a most strategic position to serve as a first line of defense against acute psychiatric disorders.

### The Suicidal Patient

Suicide, which must always be anticipated in depressed or delirious persons and in acutely psychotic patients, is a true psychiatric emergency. To recognize these psychic disorders is to anticipate attempted self-destruction. As many clues as are available must be sought and utilized to differentiate the threat of suicide as a dramatic manipulatory device from the likelihood of its occurrence. A depressed patient shows a decrease in psychic and motor activity, a feeling of hopeless despair and a withdrawal of interest. He talks of suicide, speaks of remorse and has feelings that his family is better off without him. He is unable to plan for the future, is indecisive and feels lost. He is self-depreciatory and

very early complains of loss of appetite. He sleeps poorly, awakens early in the morning and is unable to return to sleep. This accounts for many suicidal attempts during the early morning hours. The disturbance in mood is frequently preceded by many vague physical complaints usually indicative of a general slowing up. The element of guilt, self-depreciation and feelings of hopelessness separate this group from the neurotic states with concurrent depressive anxious feelings in which the gesture of suicide is used as a controlling device. By this means such people gain some point in their interpersonal relationships—either affection and solicitude or, perhaps, the release of resentment held towards others. Such patients need not be put in a hospital since, having gained their point through threat or gesture, they are for the time being satisfied.

A depressed, suicidal patient, however, should be put in a hospital and there every precaution must be taken against the possibility of self-destruction. Such a patient needs to be on the ground floor or first floor of a closed, screened hospital unit or with special nurses if adequate closed facilities are unavailable. Special nurses are helpful, since such personnel act as parental substitutes, giving adequate attention and solicitude as compensation for injured self-depreciatory feelings. Direct questioning need not be avoided. Questions should be frankly concerned with the patient's spirits, the presence of thoughts of death, his wish to live or die, his ability to face and plan for the future. The physician frequently is reluctant to ask such direct questions lest he offend the sensitivity of the patient; but more frequently such reservations may be based on his own fears and the misconception that direct questions may implant ideas of suicide.

From the Department of Nervous and Mental Diseases, College of Medical Evangelists, Los Angeles 33.

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It is the moderately depressed patient who is most likely to try to kill himself, rather than the profoundly depressed person in the depth of despair whose initiative is at such low ebb that none of his faculties can be mobilized for any action.

#### **Acute Intoxications**

The acute intoxications including alcoholic, bromide and barbiturate overdosage represent true psychiatric emergencies with a real threat to the life of the patient. Such intoxications may exist alone or in combination with any injury or illness in the course of which physical resistance is lowered. In these conditions there is primarily a loss of coordination, but excitement and some combativeness. The symptoms of barbiturate overdosage are clouding of consciousness, ataxia, nystagmus and slurred speech. The treatment of barbiturate intoxication includes immediate gastric lavage, maintenance of adequate respiratory exchange, suction for removal of pooled secretions in the throat, antibiotics for the prevention of pulmonary complications and administration of adequate fluids and mild stimulants. Sudden complete withdrawal of barbiturates may cause seizures. Bromide intoxication results in agitated states with increased salivation and bizarre visual hallucinations. Treatment includes the "forcing" of fluids, giving enemas and the administration of sodium chloride.

Delirium, a psychiatric emergency, is characterized by clouding of consciousness, gross distortion in perception, disorientation and at times hallucinations. Such reactions sometimes occur also in physical illness, as in cardiac decompensation, pulmonary edema and postsurgical states as well as in eclampsia and in exhausting infectious disease. The symptoms of tremor, sweating and flushing, together with disorientation and cloudy mental state, bespeak the diagnosis. Such patients are best treated in a quiet, nonstimulating, restful environment in a dimly lighted room with special nursing care. The presence of a few personal possessions such as photographs helps to keep the patient in close contact with reality. Close personal attention, adequate intake of fluids and maintenance of nutrition with small doses of insulin are recommended. Giving Sparine® or reserpine intravenously is helpful. Restraints are not indicated and should be avoided whenever possible. Patients in delirium are frightened and must be protected against their own fears and prevented from panic reaction which may result in suicidal attempts to escape their projected fears.

#### **Organic Mental Syndromes**

With the conquest of acute infectious diseases, the life span has increased, with the result that physi-

cians now are dealing more and more with older patients. General physicians nowadays are confronted by many problems associated with aging, which are frequently diagnosed as organic mental syndromes. The psychic implications of senescence are frequently a psychiatric emergency, especially if there is a reaction of excitement with disorientation and confusion. The patient may feel lost, may be frightened and perplexed and react to his situation with much antagonism. Excitement and agitation in senescent patients must be treated with quiet assurance and administration of specific tranquilizers. Keeping the patient in the familiar surroundings of home, limiting the number of visitors, giving special solicitous nursing care (best provided by a favored member of the family) and continued care by the physician are advisable in light of the large psychological component in the genesis of senile deterioration. The state of the patient is not entirely owing to the vascular changes in the brain, but is due in part to changes in his environment or in his attitude toward himself. The older person begins to feel himself a burden with limitations in his physical and mental capacity. He loses loved ones and friends through death, and the world is new and strange to him. He senses the hostility in others toward him for being in the way and he reacts with resentment. Guilt over resentment leads to self-depreciation and depression. Loneliness leads to hypochondriacal preoccupation. The patient becomes greatly concerned with bodily symptoms and excretory functions, since his body now provides the main source of interest. He is, as it were, withdrawing to his own body for solace. Fearing the loss of identity in terms of loss of usefulness and sexual interest, he no longer tries to adjust to new conditions. He withdraws, becomes ill, shows increasing irritation, combativeness and argumentation. He frequently is depressed and has paranoid ideas in which he projects much of his feelings of insecurity and hostility on others.

The goal of treatment best attained by the physician is to help the patient to accept himself. Interest and understanding on the part of the physician is essential in order that the aged person has someone to talk to, someone he feels is sympathetic and interested in him personally. The patient should be kept in his own home, his life orderly and routine and free of nagging relatives. He should be attended by a family member. A nightlight should be kept burning to avoid fright, and every new procedure should be explained beforehand.

Many of these elderly patients will recover from the acute psychiatric emergency even though there may be damage to the brain.

### Acute Functional Syndrome

The psychiatric emergency of acute functional psychic disorder results from a fear of loss of control of thought and behavior. This fear leads to a desocialization, withdrawal, and alienation from others. The anxiety which cannot be tolerated because of the fear of psychic disintegration leads to uncontrolled excitement or extreme inhibition. In the paranoid schizophrenic and manic-depressive reactions, the patient may have negative, hostile destructive feelings toward persons on whom he is dependent. The conflict may erupt in violent, uncontrolled, aggressive behavior, often preceded by physical complaints of vague, often bizarre nature. Paranoid reactions are often introduced by intense hypochondriacal complaints for which the patient will accept no reassurance of explanation. Expressions of hatred and of obviously false beliefs are diagnostic. When the hatred becomes so intense that the patient can no longer contain himself, he will project his feelings of hostility upon others, feel in danger of attack and therefore attack others or himself. The warning signs are increasing tension, increasing agitation, resentment and demands from others. Putting the patient in a hospital and the administration of promazine is recommended.

Paranoid reactions in postsurgical patients, which occur frequently, are best treated with frank discussion of misinterpretations and misidentifications, and with assurance and orientation to reality.

### Anxiety States

The acute anxiety attack may be a psychiatric emergency, especially when it assumes panic proportions. There are multiple somatic symptoms, and autonomic imbalance which may be likened to the racing of an automobile engine while the car is stationary. Such anxiety is usually related to aggressive thoughts and fantasies which are very frightening to the patient. These states are frequently precipitated by visual scenes of violence on television or motion picture programs. The patient feels his heart palpitating, has difficulty in breathing, is sweating or feels chilly, and there is a great fear of impending death. Sleep produces disturbing dreams in which he relives threats of his childhood. He is helpless, is rooted to the ground, is falling over a precipice. He wants to call for help but is unable to speak.

Such conditions can engender reactive anxiety in the physician who is treating the patient. It is essential that the physician, having satisfied himself as to the absence of organic condition through adequate physical examination, remain calm and unhurried and be reassuring to the patient. Any semblance of aggression in the treatment of a violent,

agitated patient must be assiduously avoided, for the patient is acutely fearful of aggression. Physical force, restraints, hustling or mishandling of the patient is contraindicated, but a firm, kindly and authoritative touch will be of immeasurable help.

### Postpartum Psychic Reactions

Postpartum anxiety and depressive reactions occur in situations in which maternity mobilizes in the patient earlier childhood conflicts—usually of sibling rivalry or of mixed feelings toward her parents. Here reassurance, adequate sedation, the use of a motherly nurse and temporary relief of the maternal responsibility will often lessen the intense agitation the patient feels. The closer the reaction to the time of birth, the greater the possibility of psychotic reaction. The patient in whom feelings of inadequacy, tension and fears of hurting her child develop after she leaves the hospital, is probably the neurotic anxious patient. She can be effectively treated with appropriate sedation and psychotherapy.

### DISCUSSION

The acute psychiatric conditions in medical practice consist primarily of depression with possibility of suicide, acute intoxication, delirium and other organic and functional mental syndromes. Psychologically and clinically these are manifestations of the fear of disorganization as seen in the organic mental syndromes, desocialization as seen in the psychoses, and deterioration as seen in the aged. The diagnosis is not often obscure but effective management may be difficult, since treatment is also based on the physician's own attitude toward psychiatric disorders.

Disorders of thought and behavior are defensive mechanisms against overwhelming fear of psychic dissolution, just as fever, pain, leukocytosis and tenderness are attempts of the body to localize infection and prevent spread and bodily destruction. The symptoms of psychic disorder are attempt at restitution and to ward off the inroads of the disorder. Psychiatric patients are fearful of their own internal disruptive and aggressive drives. The fear of loss of control leads to disorganized behavior. The physician must lend stability through his own calmness and reassuring attitude. He must not be fearful nor aggressive. Rarely will violence be directed toward the physician by the patient. As between the patient and the physician, the former is always more fearful and it is better that the patient remain the anxious one. In such situations the treatment of the acute psychiatric disorder, although exigent in nature, need not be a harrowing experience for the physician.

9629 Brighton Way, Beverly Hills.

## Psychiatric Aspects of Chronic Disease and Rehabilitation

JUDD MARMOR, M.D., Los Angeles

AN IRONIC CONSEQUENCE of the progress of medical science in the past century has been the striking increase in the number of persons with chronic diseases. Countless thousands who would have died from illness or injury in the past are now enabled to survive, albeit with some form of residual handicap or dysfunction. Seventy-five years ago chronic diseases caused only about 7 per cent of all deaths; today they cause more than 75 per cent. The number of handicapped people in this country today is estimated to be close to thirty millions. There are more than one million each of hemiplegics, amputees and diabetics, about three million persons with orthopedic disabilities, over ten million with cardiovascular diseases, and about fourteen million with disabling mental illness, blindness, deafness and various other neurological disorders.

But these numbers alone, enormous though they be, cannot begin to tell the whole story of individual human distress, disruption of family life and economic disaster that lies behind them. Almost every person with a chronic disease involves many other persons around him in a pattern of suffering. The problem of rehabilitating the chronically ill and disabled, therefore, involves more than the happiness of the patients themselves. Its implications bear on the well-being of almost everyone in our society.

Although rehabilitation has only recently appeared on the scene as a specialized aspect of medicine, in actuality it is as old as our profession, and is practiced in varying degree by all physicians. Essentially it is merely sound "follow-through" medical practice. It implies the recognition that the physician's responsibility to the patient does not end with the termination of an acute illness or surgical procedure, but is finished only when the patient has been enabled to resume the fullest degree of functioning consistent with his residual abilities.

In general there are three major phases to this task. The first of these is the phase of physical restoration, which includes chemotherapy, physical therapy, exercises, plastic and reconstructive surgical procedures, artificial limbs and hearing devices. The second phase might be called the phase of rehabilitative education, in which the patient is taught specific techniques which make it easier to live with his

handicap. This includes such things as learning Braille, the use of seeing-eye dogs, lip-reading, the use of crutches or artificial limbs, and also the entire area of vocational training. The third phase, the one to which my remaining remarks are directed, is that of psychological rehabilitation. In some ways this is the most important aspect of the entire rehabilitation procedure, for unless it is carried out successfully, all efforts at physical and educative rehabilitation may fail. There are generally two main goals—that of enabling the patient to "accept his handicap," and that of getting the patient to resume his life contacts and functions to the fullest reasonable extent.

As to the problems involved in the attainment of these goals, there are four major aspects to be considered: The attitudes of the patient; the attitudes of the patient's family; the attitudes of the physician and his therapeutic "team"; the attitudes of society. Although each of these aspects will be considered separately in this discussion, it must be borne in mind that they are all interrelated and interdependent.

### Attitudes of the Patient

Without question, the patient himself and the quality of his personality is the most important factor in the rehabilitation process. We are all aware of the great variations in response to disability that different people can show—from the patient who completely retreats from life because of a relatively minor handicap to the transcendent, incandescent courage of a Helen Keller or Franklin Roosevelt. What is the basis for these variations? There are many factors involved. Some of these are:

¶*Time of onset of the disease or disability.* Generally, a person who has some handicap very early in life is more likely to be able to accept it than someone who acquires the same handicap in his prime. We see this, for example, in the adjustment to the handicap of blindness or deafness.

¶*The part of the body involved.* In addition to their obvious or conscious importance to us, different parts of the body also may have, for certain persons, great unconscious significance which may have considerable bearing on their reaction to a handicap. The skin, eyes, heart and reproductive organs, for example, all carry a particularly high libidinal investment for most people, and injuries or diseases which involve them are likely to cause greater than average emotional stress.

¶*The rate of onset of the disability.* In general, the slower the rate of onset of a disability, and the more time thus available for the patient to make the inner psychological adjustments to it, the less the likelihood of development of a severe emotional disorder.

Clinical Professor of Psychiatry, University of California at Los Angeles School of Medicine.

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¶*The life situation in which chronic illness developed.* This is a factor of great importance. Not infrequently the life situation is the very soil out of which the illness has grown, as in the various diseases of adaptation, the so-called psychosomatic disorders, and indeed even in such conditions as tuberculosis, recent studies having shown a high correlation between long-standing stressful life situations and the incidence of the disease. Clearly the assets and liabilities in the life situation, in the home, the economic circumstances, the vocational opportunities, the attitudes and relationships to friends and relatives, as well as the specific nature of the disability itself will all have important bearing on the ease or difficulty with which a patient can be enabled to return to a useful existence.

¶*The element of "secondary gain" from the illness.* This refers to the degree to which the illness satisfies certain psychological needs in the patient and therefore makes him unconsciously reluctant to get well. An illness or handicap may satisfy certain unconscious dependency needs in a patient, or constitute a justifiable excuse for retreating from a previously difficult life situation; it may carry with it a pension or other financial compensation which the patient is reluctant to give up; or it may serve as an outlet for aggressive impulses by providing the patient with a basis for emotional control or domination over some member of his family, such as a parent, a child or a spouse.

¶*Stereotyped misconceptions concerning the illness or handicap.* This involves psychological misconceptions or prejudices concerning specific disorders which are widespread in our society and which often have to be dealt with in patients with these handicaps. In this category are assumptions that arthritic patients become repulsive, that persons with heart disease can never walk upstairs, that blind people become beggars, that deaf people are objects of ridicule, that mental illness is incurable. With these assumptions generally go attitudes of shame and inferiority, expectations of contempt and condescension from others, feelings of hopelessness and reactions of depression or defensive hostility.

¶*The emotional maturity of the patient.* Emotional maturity is a much used, much abused concept which covers a multitude of adaptational personality traits. In the present context I am using it primarily to designate the capacity of a person to tolerate frustration and to face reality honestly. This is one of the decisive factors in the ability of a patient to face the fact of irreversible handicap rather than take refuge from reality by the mechanism of denial. The need to face and accept limitations, incidentally, is not peculiar to the chronically ill, it is a universal

aspect of human existence. All of us are constantly faced with the necessity of accepting limitations at various stages of our lives. When we are young we are denied the privileges of maturity; when we mature we must accept the limitations that go with the loss of youth. The limitations that are imposed on the persons with diabetes, with heart disease and arthritis, for example, are greater in degree, it is true, but they are still essentially extensions of the kinds of limitations that the aging process ultimately imposes upon all of us; and the emotional maturity of the person who is limited plays a decisive role in his ability to accept them.

#### Attitudes of the Patient's Family

The attitudes of the patient do not develop in a vacuum. They are, as was pointed out previously, interrelated with the attitudes of the family, the physician and the social milieu. Let us consider attitudes which may be encountered in members of the patient's family with which both the patient and the physician have to cope. Some of these are:

(a) *Guilt and self-accusation* which in turn may lead to

(b) *Seeking out of quack doctors or remedies.*

(c) *Denial of the existence of the handicap.* This is sometimes linked with an unrealistic insistence upon a completely normal life for the handicapped patient—as when the mother of a deaf child insists on the child's going to a "normal" public school rather than to a special school for the deaf, thus emphasizing rather than minimizing the child's sense of difference from other children and denying him the specialized kind of training which he needs; or when parents of an orthopedically disabled child put pressure upon him to undertake physical tasks beyond his capacity in order to "prove" his normality.

(d) *Shame and embarrassment*, which in turn accentuates that of the patient.

(e) *Feelings of hopelessness.*

(f) *Defensive hostility*, and a tendency at times to project the blame for the patient's illness on the physician. It is important that the physician recognize the anxiety and fear that lie behind such hostile reactions, and that he address himself to these underlying feelings when necessary. This will almost always prove much more effective than if he responds with counter-hostility, as he is often tempted to do.

#### Attitudes of the Physician and the Therapeutic Team

Experience has shown that four-fifths of all rehabilitation procedures can and should be carried out by the physician who is responsible for the

primary medical care of the patient. In perhaps no area of the vast field of medical practice is there greater need for the art as well as the science of medicine than in the problems posed in rehabilitation. The art of medicine means a number of specific things with regard to the chronically ill. It means helping the patient accept the reality of his disability but at the same time never totally closing the door on hope. One has only to recall the status of diabetic persons before the advent of insulin, or of persons with congenital and rheumatic heart disease before the recent remarkable advances in operations upon the heart, to realize that there is a rational and justifiable basis for never totally obliterating hope in the patient. In many patients this spark, feeble though it may be, is the decisive factor in enabling them to endure what might otherwise become for them an intolerable state. The art of the physician also implies being able to help the patient focus not on the disability but rather on his remaining abilities. One of society's misconceptions with regard to health, which we as physicians have occasionally been seduced into sharing, has been the myth of anatomical completeness as a measure of human competence or fitness. On the basis of this myth, thousands of persons are sometimes regarded as being disabled when in fact, viewed from the standpoint of their remaining abilities, they are highly competent to do many things. One has only to recall, for example, the magnificent job which so-called 4-F's did in factories during World War II. We must also keep in mind the remarkable way in which the human body is able to compensate in one area for defects in another. The increased sensitivity of touch and hearing, for instance, in the blind makes them as much as 30 per cent more effective in certain forms of work, such as darkroom photography, than are sighted people. The fact is that most of us rarely utilize more than 25 per cent of our physical resources. Man can live with half of a lung, a third of a kidney, half of normal blood volume, as little as one sixty-fourth of a liver, with no stomach at all and with large parts of the frontal lobes of the brain missing. If we but keep in mind the remaining abilities rather than the existing disabilities of chronically ill patients, we can begin to appreciate the enormous potential of human resources and productivity that is available in the 30 million chronically ill people in our country—a potential which our society neglects to its own great loss.

The faith of the patient in the ability, interest and sincerity of his physician is another of the major motivating forces in the rehabilitation process. The attitudes of the physician as a special kind of parent-surrogate toward the patient are therefore often of decisive importance. If the physician feels hopeless

or alarmed, these attitudes are quickly reflected in the patient's attitudes. If the physician feels a secret contempt or aversion for the patient, this too is inevitably communicated. It is not unusual for serious defects to arouse anxiety in the physician. Like all other human beings, physicians are capable of being deeply disturbed when they come face to face with evidence which demonstrates the transitoriness and vulnerability of human existence. Colleagues have occasionally admitted to me a distaste, for example, for working with the elderly and the seriously infirm precisely on this basis. Yet I think it is unquestionable that a physician must make every effort to become aware of such attitudes within himself and to overcome them, since they are in direct antithesis to the humanitarian basis of medical practice, as well as a serious barrier to his ability to help such patients. Over and over again through the years I have been impressed by the dramatic way in which the clinical picture in chronically ill persons can change when someone takes a sincere and genuine interest in them or when they begin to feel needed and wanted again in their environment. I am sure that I do not have to provide examples of this to this audience, and that such instances will spring to all of your minds.

One other word about the role of the physician in this field. This is an area in which the practice of suggestion, judiciously used, can often be a great help to patients. Every experienced physician uses this knowledge either consciously or intuitively. In the past several years, in line with this fact, a new respect for the potency of placebos has once again come to the forefront of our medical awareness. Indeed, there is reason to believe that the value of even rationally indicated preparations can be either facilitated or impaired by the degree of confidence in them which the physician is able to arouse in his patient.

#### Attitudes of Society

Society plays a significant part in the problem of the chronically ill. It is not only that social attitudes of fear and rejection may make the ill person such a pariah that rehabilitation may be impossible—as was once true in the case of lepers and is still likely to be true of epileptic or syphilitic persons and the mentally ill. Nor is it merely that social prejudices may bar the way to vocational rehabilitation as in epilepsy, mental illness and old age. (Incidentally, if I may digress for a moment, I know of no social myth that can be more destructive to the human personality than the myth of the desirability of retirement—as though work were some kind of intolerable burden with which men and women are saddled, and the greatest desideratum in life after

the age of 55 were to be able to return to some kind of perpetual adolescent play until we die. For most people work plays a large role in maintaining both physical and mental health. It is not only a major source of our sense of identity, it is what makes people feel wanted and needed. I am sure that almost everyone has seen the morale of elderly persons become shattered when they have been forced to stop working, and then has seen them rapidly deteriorate both physically and mentally.)

In addition to these well known aspects of the influence of society on the chronically ill, there is still another aspect of it which is less commonly recognized. This is the relation of social attitudes particularly to those illnesses which we call the psychosomatic disorders. Talcott Parsons and others have pointed out that all illnesses, but particularly mental illnesses and the psychosomatic diseases, represent forms of deviant behavior which are sanctioned in our society. For example, the person who deals with his anger by repressing it and developing chronic hypertension is regarded as "sick" and is entitled to sympathy, to medical help and disability pensions; but the person who releases his anger in the form of fighting, stealing or setting fires is regarded not as sick but as criminal or delinquent, and as meriting only a punitive approach to his problem. Under certain circumstances, as in wartime, even some psychosomatic or emotional disturbances may not receive social sanction, and the person who has the disturbances may be labeled as a coward or a malingerer; the "sick role," in other words, is denied him.

#### Rehabilitation and Rehabilitative Services

Research into the social epidemiology of disease is still in its infancy. Suffice it to recognize that social attitudes, prejudices and evaluations play a not inconsiderable role in the physician's task of trying to rehabilitate the chronically ill. This is an area, therefore, of which the physician must not only take cognizance, but in which he may reasonably wish to seek some corollary assistance with his patient. I refer here particularly to help which is available from medical and psychiatric social workers and from vocational advisors. Often a physician who is well aware of the rehabilitation help which is available from physical and occupational therapists, from psychologists and psychiatrists and from other special consultants, may quite overlook the availability

of the vocational and social workers who are experts in the utilization of community resources for the rehabilitation of handicapped persons.

It is well to bear in mind, however, that in some instances a return to employment may not be a feasible or optimal objective. It may, nevertheless, still be an important goal of rehabilitation to enable the patient to get out of a hospital, to return to live with relatives and to be able to take care of his own basic needs. A recent study at Goldwater Memorial Hospital in New York City, for example, revealed that out of 95 unselected patients receiving custodial care because of chronic illness, all but seven were able to be returned to their homes when a proper rehabilitation program was instituted.

A note of caution: In striving for the rehabilitation of a patient with a chronic illness, it is important that the *total* adjustment of the patient be kept in mind. Too much striving for physical recovery, for example, at the cost of the total emotional adjustment may be one-sided. A patient who devotes all his time to muscular exercise, trying to compensate for a physical defect, may become a psychological invalid even though his muscular function improves. By the same token, pushing a patient too ambitiously to achieve a life goal beyond his physical limitations may cause a stress breakdown. Schlesinger described the case of a person with crippling of long-standing from poliomyelitis who strove so hard to rehabilitate himself out of a wheelchair when he heard of the new techniques of rehabilitation that he died of a coronary occlusion at age 30. Rehabilitation, in other words, must seek optimal not maximal goals for the patient.

Rehabilitation of chronically ill or disabled patients implies that the physician's responsibility is terminated only when the patient has been enabled to resume an optimal degree of functioning consistent with his residual abilities. In this task the psychological goal of enabling the patient to face his handicap honestly and of motivating him to return to usefulness is a paramount one, since without this accomplishment the physical and reeducative goals of rehabilitation may be foreclosed. In the fuller understanding of the dynamic interrelationship of the psychological attitudes of the patient, the patient's family, the physician and society lies the key to the more effective rehabilitation of such patients and a more satisfying practice of medicine.

420 North Camden Drive, Beverly Hills.

## Psychiatric Information for General Practice

RALPH R. GREENSON, M.D., Los Angeles

IT IS IMPERATIVE that a physician bear in mind that to his patients he is a very significant and emotionally highly charged figure. By the nature of his unique position in society a physician has great impact on the patient, either positively or negatively, rightly or wrongly. Almost anyone in our social structure remembers that from childhood on it was the physician who was called when the family was in trouble and the parents were frightened. This gave him great power in the eyes of the child, and the impression lives on in the unconscious mind of the adult.

### The First Interview

Another basic consideration is the form and the content of the initial interview. It is required that the physician pay strict and respectful attention to the patient's history and to his behavior. Reactions to the patient's complaints must not be flippant, casual or neglectful. Writing extensive notes during the interview is proscribed; lest it seem to the patient that the physician, busy writing, is listening with but half an ear. Above all, one should not attempt to fill out a form in the first part of the first interview. I have seen many patients who would never return to a physician who started out questioning them and filling out a form. They felt, and I believe they were right, that he was more interested in record-keeping than he was in their suffering. One can get around to filling out the form later in the interview or at another interview.

In the first interview it is essential to appraise the patient's condition. Appraisal means more than merely establishing a diagnosis. Appraisal should try for the answer to the primary question: Is the condition that is to be dealt with static or chronic, or are there signs of progressing decompensation and loss of equilibrium. The entire plan of procedure depends on the answer to this question. As long as the patient is in some state of equilibrium, neurotic or psychotic though it may be, there is time to see the patient several times and to reach conclusions deliberately. If, however, there are signs that the condition may be the beginning of acute decompensation, whether psychotic or neurotic, it is imperative to recognize the prospect, for patients in such

circumstances require specialized treatment. It is true that the general physician who appraises the patient may have to do the emergency first aid work (which is to be discussed later) but, by and large, acute decompensating neuroses or psychoses ought to be treated by specialists.

The crucial issue in determining whether or not one is dealing with acute decompensation or with a patient who has achieved and maintained some equilibrium has to do with the relationship between the patient's control apparatus and his impulses. If during the interview it is observed that the impulse-control balance is shifting toward impulsivity—that is, that the patient is pouring out material, unable to stop and losing control over his thinking and judgment—then the physician has to change the nature of the interview, must assume control of the situation. Instead of passively listening to the patient or encouraging the patient in very general terms to tell his story, the physician ought to intervene and ask specific questions or change the subject, or even tell the patient it is best now to stop talking for the nonce, while some other aspect of the examination is carried out. Above all, when the patient seems to be losing control, one ought to stop probing questions of any kind.

If the physician determines in the interview that the controls of the patient are strong enough to contain the impulsive elements, then it is permissible to ask questions for a deeper understanding of the problem. By and large, however, the best information is obtained if one follows the leads of the patient, doing as little specific questioning as possible. The patient's way of relating to this relatively unstructured situation often indicates how well or poorly his ego is functioning. There is a great deal more to the appraisal of the patient in the initial interview, but not all the factors can be dealt with in so brief a presentation.

Another question, however, which has to be answered in the initial interview or interviews is: Is this patient treatable by me, or not? This is partly determined by the state of equilibrium or lack of equilibrium, and also by the diagnostic appraisal. However, the answer is complicated by the fact that one must consider what method of treatment is available to this patient. Even though the case may be one of chronic neurosis and very difficult to treat, if the patient is unable for one reason or another to go to a psychiatrist, it may become necessary for the general physician to take over the treatment. Here, too, not only the diagnosis but the patient's motivations, the patient's resources, the availability of psychiatric help, all will play a determining role in whether or not the patient should be referred to a

Clinical Professor of Psychiatry, University of California at Los Angeles Medical School.

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psychiatrist or treated by the physician who confronts him first.

Another matter for consideration with regard to the form and content of the initial interviews is the importance of giving the patient enough time. Effective psychotherapy takes time. Not that it is necessary to give a patient a full hour at each interview, but establishing rapport and a working relationship cannot be done with any appearance of haste. In this regard, it is imperative that the physician not be interrupted by telephone calls or questions from office personnel during an interview with a patient. An important factor in dealing with a psychiatric patient is the recognition that the more emotional discharge he gets in telling his story, the more he will feel relieved. Since it is the amount of emotion he is able to discharge in the telling that has therapeutic effect, if a patient is reciting his woes in a monotonous long-drawn manner, it may be wise to gently point this out to him in an attempt to encourage him to reveal his true underlying emotions. Often this is not an easy job, and it may be impossible. Nevertheless, if the therapist asks about the lack of emotion, the patient's response to this stimulus may make it possible for him to have some emotional catharsis in the interview.

#### **The Physician's Demeanor**

A physician must give thought to his manner of paying attention and to his own emotional responses to the patient. His face ought to reflect, at least in quality, the physician's sympathy and empathy with the sufferings of the patient. One ought to permit one's face to have the ordinary human reactions of an interested, involved and yet objective observer. The deadpan is completely out of place in any form of psychotherapy. A physician ought not treat unless he has a sense of security in the treatment. A frightened physician is a poor therapist, particularly in psychiatric problems. If the physician feels the patient is too sick for him to handle, or is too disturbing for other reasons, he ought to refer the patient elsewhere. I do not believe that a physician who is himself insecure can effectively treat emotionally disturbed patients.

#### **The Anxious Patient**

It is the therapist's task to provide the patient with an atmosphere of acceptance, empathy and security. An anxious patient needs time and encouragement to express his anxieties. The more thoroughly he describes his fears in the greatest detail and with all the appropriate emotion, the more relieved he will feel, particularly if the therapist's attitude is understanding and unafraid. It is crucial that the

therapist give him undivided attention and respect the nature of his troubles. One must remember that quick reassurances given before a careful study of the patient are usually worthless—in fact damaging. In order for reassurance to be lastingly effective, it must be given only after a careful hearing and serious study of the problem, as an indication that all the possibilities are weighed.

The more realistic and simple the reassurance, the more effective it will be. Reassurance which is overdone is empty and may produce anxiety. Sometimes it is necessary to withhold giving reassurance until one has gathered sufficient material. The patient may temporarily feel anxiety but later, when reassurance at last is given, it will be much more effective.

It is very important never to reassure a patient falsely. If the therapist does not feel the situation is encouraging, it is better to say nothing than to give false reassurance. Psychiatric patients are unusually keen and sensitive in picking up the physician's anxiety. It is much better for the physician to say that he is not sure about the situation than to reassure when he has doubt and misgivings. It is better in such circumstances for the therapist to tell a patient that he does not completely understand the nature of the patient's problem and will need more time.

#### **The Depressed Patient**

A depressed patient does not respond well to a happy-go-lucky, cheerful attitude on the part of the physician. It is important to realize that a depressed person is full of internalized hostility which he is unable to properly discharge. By and large, depressed people hate themselves. If the physician is cheerful and gentle with a depressed patient, the patient may think "What a wonderful doctor!"—and hate himself the more. Depressed patients need, first of all, someone who appears to be stronger than they are. They must feel quite certain they cannot destroy the therapist with their hostility and misery.

They also need someone who they believe can understand the nature of their problem. It is very helpful to talk to depressed patients in a tone of voice which resembles some of the internal voices that are going on within them. I have found it very useful to talk with severely depressed patients in a somewhat gruff tone of voice. I think they hear this tone and will pay attention to it, for it is the way they have been talking to themselves. It is, however, important that the patient realize that the physician is not angry with him, but angry with the way he mistreats himself.

It is important to remember that at certain times depression is a normal reaction. Patients who have

recently lost a beloved wife or a member of the family will often go through a period of grief and mourning. This may last days, weeks and even months and is not necessarily pathological; in fact it is to be encouraged. Only healthy people can really cry and mourn the loss of someone they love; sick people can't cry. It is only when the depression goes on beyond a few months and into years, and there is no crying, that the depression can be considered pathological. It is important to realize that life is often full of miserable occurrences. Psychotherapy does not always have the aim to make life beautiful but can sometimes only try to make life more bearable. There are lots of real miseries that psychotherapy cannot cure.

#### **Elderly Patients**

One of the basic necessities in dealing with an elderly patient is for the physician to be able to get the patient to talk about his fear of death. It is important for patients to realize that everyone who thinks about death fears it and that it is a perfectly natural fear. Nevertheless, it is also important to realize that the conception of death is often confused in people's minds with lots of other fearful and frightening experiences. With many persons the fear of death is associated with old ideas about bodily mutilation or childhood ideas of purgatory and punishment. It is very valuable to discuss with patients their fear of death and to help deconfuse them about it. They will often project onto the conception of death and condense it with lots of childhood fears, the fear of unconsciousness, the fear of God's punishment and the like.

Many older people, well in their sixties, respond quite well to psychotherapy. The notion that a man of sixty is rigid and untreatable is not true. I have found many patients in their sixties much more flexible, changeable and influenceable than some persons in their twenties and thirties. It is also important to realize that people at this age need to be active, to participate in things which concern them and are important to them. I think it is nonsense to give them all kinds of pseudo-activities—like bird-watching, say, if they are not interested in birds. A 65-year-old man who has always been active in community affairs or is interested in literature ought to be encouraged to actively continue his work. Older people should do what really interests them, even if it is hard work. Enforced taking-it-easy and enforced retirement is extremely dangerous for the older patient. Participating in something useful and gainful and constructive means being a member of the world, and that means living. Many older people have been forced into part-time living by well-meaning relatives and friends.

#### **Marital Advice**

Another area of great importance for the psychiatrically oriented general physician has to do with the giving of marital advice. In this delicate field it is very easy to make mistakes by going to extremes in any of several directions. It is necessary to realize that the marital partners who are coming to the physician are usually anxious, embarrassed and frightened. It is the physician's task to put them at their ease; but it is important not to do so by being either sexy in approach, or puritanical. There is a proper dignity and familiarity in dealing with such problems which must be conveyed to these patients. One reassures them and puts them at their ease by talking to them openly and yet with a sense of delicacy.

In talking about sexual matters, it is important not only to educate the patients in pertinent physiology and anatomy but also as to the emotional aspects of the sexual relationship. Here, too, one has to be careful neither to glorify sex and make it the paramount aspect of life or to devalue it as merely another physiological reflex which needs to be executed at periodic intervals.

The patient also ought to be made aware of fluctuations, normal fluctuations, in sexuality and in responsiveness. They ought to know it takes time to find one's way with oneself sexually as well as with one's partner's sexuality. One ought to give these people a rather broad conception of sexual practices without either encouraging them to experiment beyond their psychological ability or admonishing them to adhere strictly to certain conventional concepts. Again openness and delicacy as well as education are necessary. Above all, they must be made to understand that sexuality is for emotional and sensual pleasure and not a duty, a sin or a reflex. Young people need time to become familiar with their own bodies and sexual responses and with the bodies and sexual responses of their partners.

#### **Frigidity and Impotence**

In dealing with problems of frigidity and impotence, it is necessary to differentiate between cases of long standing, in which the problem is deep seated and very resistant, and cases which may have a simpler structure. By and large, I would not do extensive probing in such cases. I would permit the patient to set the pace and see how much he is able to communicate and how much understanding he has for his particular problem. When there is great resistance to talk, I would not push. I feel those are the problems that probably require special handling. I would make sure that I do not give the impression that the existence of impotence or frigidity means a marriage is doomed. I would also make sure that the

patient know that, by and large, impotence and frigidity are curable disorders. The therapist's line of questioning ought to go in the direction of finding out if some recent event started the difficulty (if so, perhaps simple catharsis about the recent event might uncover the unconscious need to be frigid or impotent) or if perhaps lack of education and timidity are at the bottom of the trouble and might be dealt with by education and reassurance. One should be very careful, however, about complicating matters by proceeding too deeply and too quickly with these patients. In general, if the problem has existed for a long time and there is great reluctance to talk about it, referral to a psychiatrist would seem the best course. The way to do this, however, is not to make it a matter of life and death, for that will frighten the patient. In cases of frigidity and impotence which are of only recent development and the patient is not reluctant to talk, a general physician might well encourage him to talk and see whether this talk and the education the physician can give is helpful. Patients who do not respond in a few months should be prepared and educated for seeking psychiatric consultation.

### Obesity

In my opinion obesity has become a national problem. In America we tend to overeat, overdrink, oversmoke and overtalk. It seems as though we are becoming a rather orally fixated nation. There are different kinds of emotional obesity problems and we ought to distinguish between benign obesity and the more severe forms of emotional obesity. The severe forms are certainly not in the province of general physicians and are extremely difficult to treat even for the most skillful specialists. The severe forms are those in which overeating has become an addiction and alternates with bouts of deep depression and has led to severe impairments in major fields of endeavor.

The more benign obesity problems can be dealt with by general physicians. Many persons constantly overeat, as a form of consolation for some recently experienced disappointment or frustration. It may be noted that some persons will overeat after an unhappy love affair or blow to the self-esteem. Getting them to recognize this connection can be helpful. It is wise of course to make sure that obesity does not stem from organic factors before delving into the emotional elements. As to obesity in a patient who consults a physician for something else, there is little that can be done about the excess of weight unless he becomes interested in the problem and wants to do something about it.

436 North Roxbury Drive, Beverly Hills.

## Psychosomatic Medicine

LEO RANGELL, M.D., Los Angeles

I SHOULD LIKE to begin by first highlighting some of the theoretical considerations relevant to the dynamics of the psychosomatic process, then to follow this with an excursion into some typical clinical examples, and finally a consideration of certain practical applications.

The human impulse, seeking discharge, may find one of three alternate paths: It can be discharged into action, that is, the person *does* something; or into affects—the discharge is into the *interior* of the organism and the person *feels* something; or into thought, in which the impulse is partially bound and partially discharged, but at any rate dealt with in a certain way, and the person *thinks* something. These are in the main the derivative end-products of instincts with which we deal in our daily efforts to assess a human being, his thoughts, his actions and his feelings.

In the situation of psychic conflict, such as prevails at the core of any neurosis, there are specific defenses against the impulses, with attendant inhibitions of discharge, from which various distortions and resultant end-products can obtain. These can be either directed externally, resulting in abnormal external actions of various degrees and types, which constitute the *behavior* problems discussed elsewhere in this symposium, or the effects can be internal. Of the latter, there may eventuate, from this internalization, some kind of abnormal mental phenomenon, such as a compulsion or an obsession, or a pathological affect or mood such as a depression; or what might result is a pathological end-product in the somatic sphere. It is this last eventuality which comprises our focus of interest—the psychosomatic sequelae of neurotic conflict.

It is well to point out that the term *psychosomatic* implies a duality which in fact does not exist, for there is in reality no small and discreet group of somatic diseases psychically induced, but rather a spectrum of diseases, with both organic and psychological factors operative in all, but more of one or the other at each end of this spectrum. Thus, in one of the definitive papers written on this subject in 1945, Otto Fenichel uses the word *so-called* (psychosomatic phenomena) in the title, pointing to and correcting this inconsistency and loose usage. Although there is this spectrum, with organicity and psychogenicity at each end, one is hard put to think

From the Department of Psychiatry, School of Medicine, University of California at Los Angeles.

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of a "pure" example of either. As a possible contender for a purely organic lesion one might think, for example, of tumors, and yet much recent work and many individual clinical experiences lead one to withhold final judgment in this regard. Actually all disease is a combination, to varying degrees, of the psychologic and the somatic. The most "organic" disease has not only its psychic reverberations, that is, somatopsychic effects, but also is enhanced and facilitated by a preexisting psychological soil, while the most predominantly psychogenic disturbance has its somatic accompaniments. Selye, for example, in describing the nonspecific and common background of all diseases, gives due place to the role of psychological stress in the series of all stressor agents.

The psyche affects the soma, which in turn affects the psyche, completing the circle. Emotions cause obesity, which in turn disturbs the emotions. Even in the most physical "accident," with its resultant fractures or lacerations, proper consideration must today be given to the role of "accident-proneness" and the preexisting emotional turmoil which serves as a precursor. In a similar vein, resistance to infection, both of the specific or nonspecific varieties, varies with and is influenced by the emotional state. Thus, a sore throat can take hold in a "nervous" or run down condition, and tuberculosis may finally take pathological root in a masochistic, self-destructive person who has found no other way out of deep-seated emotional conflict.

As psychological effects or sequelae of organic disease, one can think for example, as a representative of this, of the reaction to a cut, when, in predisposed persons, acute anxiety, panic, actual fainting or even shock may occur. These psychologic effects range from the sequelae of such an acute instance to the most chronic of organic illnesses, where again the influences on the total being and personality of the sick person must be taken into account. Much attention, for example, has recently been paid to the handling of the dying patient, with a growing realization that it is not only the physical state of the fatal and significant organic lesion which must be treated, but the effects upon and the attitudes of its host, the patient.

Similarly, and to complete the circle, every "psychogenic" affliction has its somatic accompaniments. Thus, for example, the most "pure" psychogenic hysterical conversion has both the factors of somatic compliance as well as of somatic accompaniments. The psychic conversion is to a somatic *locus minoris resistentiae*; and an arm hysterically paralyzed is nevertheless a member in which there are organic changes and findings in muscle tonus, in the general vasomotor state, in the autonomic innervation, in sensations and perhaps in skin tem-

perature. Thus all disease is both psychic and somatic, just as Selye has shown in an analogous and parallel way that all disease has both a nonspecific background and a specific outward form.

In pursuing further the technical delineation of the psychosomatic process, it is necessary for the diagnostician to make a differentiation between two major groups which are seen in practice. In one of these the somatic involvement confronting the practitioner is basically an hysterical process, while only in the other is it what we call more technically psychosomatic illness or an organ neurosis. The finer meanings and implications of this differentiation are of more concern to the psychiatric specialist, but a few of the major determinants will be appropriate in this discussion.

In the hysterically afflicted somatic area, the affected part is speaking in body language, symbolically, expressing a repressed idea, thought or wish. While an organic function is utilized, no organic "lesion" is involved or at most this is very secondary, incidental and not a primary part of the picture. Thus, for example, an hysterically vomiting woman may essentially be expressing the repressed wish, "I am pregnant." While there may be spasm or accompanying changes of tonus, these are incidental, and there is no such process as ulcer, but it is rather the symptom, the vomiting, which is the main thing. An hysterical convulsion with no localized disease of the brain may express an orgasm, and an hysterical blindness may give voice to the thought "I do not wish to see what is forbidden." An hysterical abasia may be the equivalent of an agoraphobia and may express the prohibition to go into a forbidden or sexually dangerous place. Pseudocyesis is another obvious example which would belong in this group. Although the patients in such cases present somatic fronts, they are hysterical rather than technically psychosomatic, and should thus be known by whoever is called upon to evaluate them. The treatment here is directed wholly to the psychic state, with the presenting somatic involvement generally requiring no local ministrations. We do not treat the eye of the hysterically blind, but the mind for the conflict which lies behind it. The mechanism in symptom formation by which the leap occurs from the psychic to the physical remains obscure.

In contrast, what we technically and more specifically term psychosomatic illness, or "organ neurosis" as it is known to the psychiatric or psychoanalytic specialist, has quite another dynamic background. The somatic change here is a more real and localized one, is not symbolic, does not speak in body language, and has no specific psychological meaning of its own, but is rather a physical result of a chronic and long standing disorder in function. Thus, for example, a chronically rasping voice from



high pitched anger and from a literally snorting attitude can eventually result in chronic hoarseness or sore throat, as can a nervous or imitative cough after some time. The true psychosomatic disease is brought about by such mechanisms. In this way, for example, hypertension can ultimately result from chronically repressed anger, or an ulcerated duodenum can eventuate as a result of long-standing hypersecretion and chronic gastric contractions expressing the desire to take in love and nourishment. Neither the blood vessels nor the gastric mucosa speak symbolically in these instances, but are rather the physical evidences of breakdown as a result of the long-standing frustration and undischarged or unfulfilled tensions. In this group, while the psychic background must certainly come in for its share of basic treatment, obviously the localized somatic area must similarly be attended, oftentimes in an emergency way. The latter, for example, obtains in the case of a hemorrhage from an ulcer or in the sometimes serious acute state produced during the course of ulcerative colitis.

This second category, that of the truly somatic sequelae of psychological stress, may be seen upon closer observation to consist microscopically of a number of intermediate steps. Thus certain of the presenting symptoms may be affect-equivalents, or the physical manifestations or accompaniments of otherwise unexpressed affects. Cardiac neurosis, for example, with its palpitation and arrhythmia and changes in respiratory rate and rhythm may constitute the vascular accompaniments of anxiety. The latter may not be consciously felt or recognized, but the cardiorespiratory signs may be the only things which point to it. In such a condition of dammed-up or strangulated affects, whether of latent anxiety, rage or other emotion, there is tension, irritability and an unconscious readiness for affects, which can be set off with minimal stimulation.

It is obvious how a neurotic tension state of this sort would bombard its effects on the endocrinologic systems, both qualitatively and quantitatively, as well as on the sympathetic and parasympathetic nervous systems with their consequent physical sequelae. In the final stages there ultimately come to pass the physical results of such unconscious attitudes or unconscious behavior patterns, producing their chronic and visible somatic effects. It is in such a way, for example, that a habit of clearing the throat, or of sleeping with the mouth open, can come to bring about pharyngitis. Unconscious motivation is sometimes intuitively perceived. An irate wife recently berated her husband with, "Who are you snoring at; me?"

Consider, as another illustrative example, the state and characteristics of the muscle tonus, as this may reflect and reveal unconscious determinants. A per-

son who characteristically represses and blocks discharge may show a rigid muscular stance and posture. In one such patient, a process was observed in *statu nascendi* whereby a long and characteristic period of rigid and tense posture, with muscular tightness, clenching of the fists, stiffening of the back and entire trunk, and frequent contracting and flexing of the muscles, all expressive of severe aggression and defensive control, was finally followed by the onset of an ascending arthritis of the spine which was then diagnosed by an orthopedist as Marie-Strümpell syndrome. Another reaction may be a hypotonia in a person who is spineless and submissive; or, as still another variant, alternating hypertonia and hypotonia may result in the picture of a psychogenic dystonia, or I believe actually of a scoliosis. Or muscular fatigue may be the equivalent of depression.

The foregoing are some of the dynamic mechanisms and transitional phases in the genesis and development of the psychosomatic process. Most individual syndromes, however, are frequently combinations of several factors, and are multidetermined, the end results of more than one dynamic, etiologic stream. Thus, as an example, a case of ulcerative colitis may combine multiple psychic determinants in one. The resultant end lesions may on the one hand be the culmination of long-standing eliminative or retentive pressures. At the same time, however, the symptoms may symbolically express repressed impulses toward the outside world, impulses of aggression, or impulses to destroy, or to depreciate, or for that matter the opposite, in that the same diarrhea may express generosity, or the impulse to give, whether love or material things. Simultaneously, the same symptom may constitute an equivalent of the affect of anxiety. There is in addition, of course, the necessary etiologic factor, not to be ignored, of the invading organism, which also have to be directly treated, whether by antibiotics or other means.

To turn further now to a brief consideration of some clinical examples of psychosomatic involvement, these can be seen to run through the entire gamut of the organ systems of the body, so that only a few representative specific syndromes can be selected here for mention as typical and demonstrative. Although some systems such as the gastrointestinal or cardiovascular are more frequently vulnerable and more characteristically affected as the locus of such processes, no system is excluded from such influences. Thus, for example, the musculoskeletal system may react with muscular rigidities, spasms, and then perhaps with myositis or with various types of arthritides such as in an example cited

earlier. Migraine, with its major emotional determinants, is an example of a specific type of effect on the central nervous system, as are the frequent exacerbations of many of the neurologic syndromes, such as Parkinsonism, or many of the degenerative diseases, following acute or chronic emotional stress. The genitourinary tract may present to the specialist in this field urethritis or cystitis following a long habit of psychogenically induced urinary retention. And the gynecologist may deal with pruritus vulvae or pruritus ani as a masturbatory equivalent, or may see vaginitis or cervicitis as a result of various types of masturbatory practices. And in addition to these specific and localized involvements, there is the wide and kaleidoscopic reaction type embraced in the *allergic* diseases. The emotional component is a large one among the etiologic factors in these conditions, and it is one to be looked for and reckoned with whether the ultimate expression of disease is allergic rhinitis, giant urticaria or asthma.

As an example of the organ systems characteristically involved in response to emotional stress, we may consider for a moment the cardiovascular system. The heart is notoriously a sensitive barometer of the emotional state. The organ of love, it beats fast in rage or fear, and is heavy if one is sad. Affective states produce circulatory and vasomotor responses in the forefront, through sympatricotonic or vagotonic pathways. Blushing, pallor, dizzy spells, fainting spells, anginal symptoms, or even arrhythmia are among the many manifestations which may result. A physician patient whose symptom consisted in attacks of paroxysmal tachycardia and one or two episodes of actual auricular fibrillation, received analytic therapy for these and other anxiety symptoms for a period of several years, during the course of which it was noted there was considerable psychic background for these cardiac occurrences and with the resolution of the psychic difficulties the attacks were convincingly benefited. Similarly in a case of coronary thrombosis, one can hardly any longer be satisfied with explanations solely about cholesterol, body weight and other dietary factors to the exclusion of chronic background tensions, anxiety, rage and other emotional conflicts.

The question of specificity in relation to psychosomatic disease is a perplexing one. I think that we have particularly wished to find a neat classification and correlation of certain personality types with certain disease syndromes. However, surveying our general experiences thus far, in spite of the specificity described by Alexander and others and the personality profiles offered by Flanders Dunbar, I would lean toward the opinion that no convincing correlations have as yet been established, much as we would like such to be the case. Although we may select anger and rage to be dominant emotions in the

constriction and narrowing of the blood vessels in hypertension, this emotion can exist diffusely in all other psychosomatic lesions as well, such as in causing the skin to be red with rage. The latter can thus express not only exhibitionism but anger as well.

While repressed hostility may play a major role in the background of ulcerative colitis and other lower intestinal or anal conditions, generosity, as noted previously, can be equally expressed by this system. Self-destructiveness and masochism can exist behind the syndrome of tuberculosis or of a coronary occlusion, but I believe it can similarly exist in any psychosomatic disease pattern, particularly of the chronic or profound variety. Similarly, anxiety either in overt or disguised form appears throughout every syndrome. While it is appealing to maintain a concept of an "ulcer type," ulcers occur in other than this classical ulcer type, and we find the hungry-for-love individual developing any one of a number of other psychosomatic manifestations without gastric or duodenal ulcer. Patently many other factors are involved, not the least of which is constitutional predisposition.

At the opposite end of the spectrum, the somatopsychic effects, or what are also called the pathoneuroses, are the neurotic sequelae of organic disease, which complete the circle and fill in the total picture of the sick person. In persons who are so predisposed, the somatic affliction may mean to them, psychically, to be abandoned or deserted or castrated, or it may pose a masochistic temptation which the patient can then seize upon and make use of. Sickness itself reduces the patient to a narcissistic state and the sick organ or the sick body as a whole assumes to itself an undue investment of interest, libido or psychic energy. Sickness may in this way come to produce problems of regression, or of infantilism or hypochondriasis or dependence. Some persons thus inclined will rush to these conditions more than others, and it is the resulting total picture which will obviously confront the healing physician and have to be considered.

These conditions might come on acutely or they might be prominent ingredients of a syndrome coming on imperceptibly with old age and senility. In either case, the total reactions of the sick patient or the older person have to be understood and actively combatted and treated by the alert physician. Secondary gain of the illness must similarly be evaluated and dealt with. There are curious individual reactions to specific afflictions which are indicative of the mental state of the host. Thus recently a patient who underwent a ventriculogram for a potential brain tumor consciously denied any anxiety about what the findings of this study

might reveal, but instead was exceedingly upset at the necessity for a haircut which removed her carefully groomed long red hair. It is obvious how denial and displacement and other mental mechanisms were operative here.

In an opposite way, it is possible for the onset of an organic disease to alleviate, at least temporarily, an otherwise disturbed mental state, resulting in what is called a "patho-cure." The physical disease may relieve guilt, or provide a needed and wanted punishment and in this way reduce a tension state to a position of equilibrium. Thus it was a common observation in Army hospitals during the last war that the patients in orthopedic wards with their visible fractures and their impressive appliances and apparatuses were among the happiest and most contented of the hospital patient population. In contrast those with more subtle and indefinable infectious, metabolic or other internal diseases still suffered from numerous anxiety and other neurotic symptoms.

A patient, for example, who had been in psychotherapy for a number of months for many mixed neurotic symptoms, alcoholism, depression, and self-destructive tendencies, was involved in an automobile accident (her husband was driving) in which she suffered severe injuries and numerous small fractures. She proved to be a most cooperative, docile, undemanding patient in the hospital, the nurses remarking about her philosophical attitude. The family congratulated themselves and the therapist (erroneously) on how far she had come in her psychiatric treatment. The fact was that the externally induced pain and suffering had temporarily made the neurotic process unnecessary and had allowed it to recede. With improvement in her physical status, the emotional symptoms returned as before and her psychiatric therapy was resumed. Similarly, the patient mentioned above with the ventriculogram and suspected brain tumor improved considerably but only temporarily in her long-standing chronic neurotic state while these investigations were in progress. As it became clear that the studies were negative, the patient's anxieties and acting-out tendencies returned.

Turning now to the treatment for psychosomatic illness, this is seen to depend on many factors and on the global picture. The psychiatric aspects of the treatment run the gamut from the briefest and most superficial of psychotherapeutic approaches to those which require the most intricate and specialized psychiatric care. Similarly, the prognosis varies through the entire spectrum, from the most transient and benign conditions to the most stubborn and disabling ones. More, even, than the presenting surface symptomatology, the general underlying character structure of the patient must be assessed

and evaluated as well as the strength or weakness of his ego structure and capacities. The syndrome in question may have a temporary and transient meaning, easy to come and quick to go, or may represent even a substitute for a psychosis. Incidentally, in these last mentioned instances it is of obvious danger to radically and too quickly extirpate by dramatic means the existing somatic illness. In general, the more acute the onset and the more prominent the external factors, the better the prognosis.

Within the available armamentarium of the general physician in these cases are many methods. He may be able in favorable cases to supply the patient with a degree of insight and understanding into certain hitherto obscure mechanisms or tendencies which can help the patient to more adequately handle difficult situations. Or his therapy may rely upon his wisdom and authority, or may be effected through external measures or environmental manipulations. He may supply advice, or reassurance or may provide educational measures. In other cases various tranquilizers or ataraxic drugs may be of partial or temporary help. Incidentally, symptomatic improvement itself is by no means always proportional to the length or depth of psychiatric treatment, and sometimes the most dramatic results can occur with a very limited influence where certain dynamic factors are favorable.

One of the most generalized and severe cases of neurodermatitis I have ever seen, and which had disabled the patient for many months, melted away under the impact of two or three productive psychotherapeutic interviews. A pronounced and patent underlying neurosis was revealed, to which the patient reacted with an unambivalent refusal to go further. The psychosomatic process cleared up dramatically so that she "no longer had any need." She subsequently referred a number of other patients for psychotherapy very enthusiastically, but felt no urge for further therapy for herself.

As a general statement characterizing the psychotherapy which should be administered by physicians in general practice, one could say that this should remain above the level of defenses rather than resort to deep probing below this level. Thus, for example, it is safe and may frequently be of considerable help to instruct a patient that his physical state "is due to his emotions" or to the fact that he is nervous or upset. Such an explanation is likely to be not only new and helpful but certainly acceptable to the patient, rather than adding "upset because of death wishes, or homosexual feelings," which may not only be unacceptable but wrong, or, even if right, when applied at the wrong time and in the wrong way may very well be devastating. It

is important in these therapeutic efforts and relationships not to add to the already precarious state the factor of iatrogenic superimposition. Nor should hypochondriasis be facilitated by the physician who lightly and evasively blames this organ or that for vague and indefinable symptoms, particularly in a hypochondriacal patient who will seize upon these casual words and make the most of them. While on the one hand, it may not be desirable to uncover or to stir up, and more advisable to strengthen defenses, it is yet obligatory that the physician himself know what has happened and that he not concur with the patient in some faulty rationalization which would lead to what I have called elsewhere "a pact of mutual misunderstanding" even though the latter may temporarily and unreliably patch up for a short time the presenting symptom.

It is thus well for a general physician not to attempt specific or too deep insight therapy. I have known rather drastic results produced by a physician in the army who, upon learning some of the deeper mental complexes of man, invaded a psychiatric ward and indiscriminately informed a number of regressed patients, "You are nothing but a homosexual," or "You're just in love with your mother." This interpreter found himself subjected to rather homicidal denials. Similarly a patient's "stiff neck" might be attributed on first meeting and in early interviews to her general rigidity, or to her stiffness and tightness and fear, but not to the fact that "You are surreptitiously having an erection" which would better be left to the realm of the psychoanalyst, after he has reached such a point in uncovering the patient's deepest wishes and conflicts. Major and deep interpretation is no more within the realm of such treatment attempts than is major surgical operation in the office, or without anesthesia. Parlor psychoanalysis is no more justifiable than is wielding a scalpel in the living room. Among its complications, besides causing external havoc, can be the production of psychosis or other such untoward effects.

There are cases, of course, at the other end of the spectrum, in which the most specialized and definitive of psychotherapeutic approaches are needed and in which therefore only a long and persistent effort directed toward the most basic and primitive etiologic mechanisms can offer any promise of basic change. An example of such a clinical instance, which it might be of interest to mention and describe, was a long therapeutic experience I had recently with a young man with a history of almost life-long asthma. During the course of this treatment, many underlying and contributing psychological mechanisms emerged, some that brought on the physical signs or symptoms, and some that represented the psychic meaning to the patient of already-present physical manifestations. All these

factors were interrelated in a web or net-like fashion. Not only did the wheeze represent a crying or a passive longing for the mother, but it was also at the same time an expression and equivalent of severe anxiety. Incidentally, the wheeze was also of itself, especially when severe, a *cause* of anxiety and even fear of death. The desperate sucking in of air meant, at the deepest levels, to suck in his mother's milk, while his barrel chest cavity represented a container within which he retained milk and love and narcissistic supplies. The frequent flow of mucus represented tears and the narrowed bronchial passages expressed and paralleled his totally inadequate general line of communication to objects and people in the outside world. From dreams and other material it emerged that fluid or mucus or any extruded liquid was equated with blood, which expressed violent, murderous, revengeful thoughts against those at whose hands he had felt rejected and forlorn. His sick and tender chest cavity also represented an opening into which he would retreat when hurt and in which he periodically lived, when sick, for long periods. On other occasions, many of the weird respiratory sounds which were periodically emitted were seen, from dreams and other associations, to be the equivalent of jeering and wind which he was directing toward his persecutors and neglectors.

Gradually, during the course of treatment, and paralleling a considerable improvement in his physical state, his tears came to flow more outwardly, from his eyes instead of from his chest. Through and concomitantly with a greatly improved communication with the outside world, a widening of the passageway for air was accomplished. Instead of internal somatic episodes there were first externally directed behavioral attacks, and finally more realistic outside action in the general life situation of the patient, in his relationships with his peers, with his loved ones and in his work. Of further special interest was the fact that simultaneously with the psychoanalytic treatment of his all-pervasive, generalized emotional disturbance there was, especially in the first part of treatment, the need for periodic topical and localized treatment of the affected pulmonary processes both by an allergist and an internist, at times with necessary emergency measures.

It is probable that many of the more transient asthmatic episodes observed quite frequently in medical practice come about in a way similar to that in the foregoing case but by mechanisms less profound, and without the permanent crystallization to one deeply involved system. One can apply similar studies and methods of thought perhaps to allergic disease in general, whichever system they may involve.

It is likely that material like the foregoing is quite unfamiliar to physicians who do not customarily



deal with such unconscious mental processes, and no doubt is difficult to absorb with any degree of conviction without further documentation. Nevertheless, although documentation cannot be given here to any appropriate degree, this brief extract is offered in the hope that it does give an idea of the kind of deep emotional conflicts which may be expressed and of the complex interrelationships which exist between psychic and somatic processes. It is to be reiterated that treatment at this level is limited only to certain selected and advanced cases and is to be administered with the utmost care only by the qualified psychiatric or psychoanalytic specialist.

In closing, I would like to say as a general statement that while a host of emergency somatic therapies are in order in the case of a sudden perforated ulcer, or when a hemorrhage occurs in a patient with ulcerative colitis, I think we would now consider the treatment regimen incomplete without the

proper institution of psychotherapy in the total rehabilitation program. Similarly, following the occurrence of coronary thrombosis, any treatment program involving diet, anticoagulants and weight reduction would be dangerously incomplete without a complete evaluation of the patient's total life situation and an attempt at reorganization which would take into account not only the multitude of physical factors which exist but also every aspect of the patient's psychic life. In many or even most cases, it is the general physician who should provide and guide this total and overall treatment program. In certain other cases, however, where the psychological contribution is more intricate, subtle or complex, or more dominant in the concatenation of etiologic factors, the treatment of this aspect of the total illness would be well given over to a psychiatric specialist.

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# A Test for Evaluating Pedal Gangrenous Lesions

## Observation of Elevation Reactive Hyperemia as a Gauge of Blood Supply

RUTHERFORD S. GILFILLAN, M.D., San Francisco

THE COLOR OF THE SKIN may afford important diagnostic information in many conditions, and the factors underlying the tints and depth of color in varying circumstances are of considerable interest, not only from a purely physiological point of view but also from a clinical standpoint. The color of the skin is dependent upon the most superficial vessels—the capillary loops—and the vessels into which they drain, the subpapillary venous plexus. Thus, the normal color of the skin is produced by blood which is in or has already passed through capillaries, the arteriolo-venular bridges or the neuromyoarterial glomus. Since color alterations are the product of blood flow, direct information can be obtained regarding the circulatory status of the skin by knowledge of color changes under varying test conditions. This knowledge has been applied to the evaluation and treatment of necrotic lesions of the foot.

The distribution of blood is carried out by the great vessels and their branches, but the effective physiologic changes pertaining to the metabolism of the cell occur in the capillary bed. It is at this point that the actual interchange of nutrient and waste substances takes place, based on the relation of the colloid osmotic pressure to the capillary pressure. Death of tissue due to vascular insufficiency is incipient or takes place only in relation to the capillary. Thus it is desirable to know the adequacy of this capillary pressure in the various conditions of health and disease.

Ability to measure or evaluate capillary or small vessel pressure should give information on which to base a choice between conservative and radical procedures in the treatment of various types of necrotic lesions of the foot, regardless of the cause. Various indirect methods have been used to estimate the capillary blood pressure and the resultant computations have ranged from approximately 10 to 70 mm. of mercury in patients with essentially normal systemic pressure.<sup>2,3,8,9</sup> The results have varied widely and each method has had imperfections which have led to error.

Landis, in carrying out the measurement of capillary blood pressures in the hand by direct cannula-

• Estimating the development of collateral circulation in peripheral vascular diseases is simplified by the use of an easy test—which can be done in an office—in which reactive hyperemia is observed in an extremity as it is gradually lowered after a period of elevation.

The lower limits of filling pressures necessary to allow spontaneous healing of necrotic lesions under the conditions described seem to be in the range 35 cm. above the heart. Similarly the lower limit for the successful performance of amputations at the level of the forefoot or toes seems to be about 45 cm.

As a result of over a thousand observations in a period of over five years, it is believed that the test provides in a few minutes a visual and reproducible picture of the filling pressures in the distal portions of the extremity which is useful in the determination of prognosis and the selection of treatment of gangrenous lesions of the foot.

tion, called attention to the changes which occurred on raising and lowering the extremity.<sup>8</sup> He noted that elevation of the hand above the heart decreased the pressure and that lowering it increased the pressure. It has also been noted that, with the patient supine, when the lower extremity is elevated into the "L" position the blood pressure in the arteries of the thigh and leg is lower than when the leg is in the horizontal position, owing to the hydrostatic effect. The nearer the point at which measurement is made is to the foot (when the leg is elevated) the lower will be the observed pressure (Figure 1). The difference between the pressures in the brachial artery and the arteries of the thigh and leg in these different positions is approximately equal to the height of a blood column which would reach from one arterial level to the other.<sup>7,13</sup> There does not appear to be any major nervous mechanism in the extremity governing the caliber of the arterioles to antagonize gravity such as exists in the splanchnic area to protect the head and upper portion of the body from sudden pressure changes on positional alteration.

The appearance of color in the skin at various heights above the heart has been used as an index of capillary pressure or, more exactly, as an index of the level above the heart at which the capillary

From the Departments of Surgery, Children's Hospital and Stanford University School of Medicine, San Francisco.

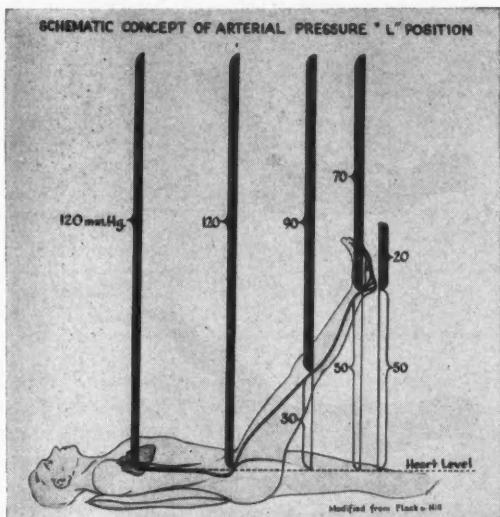


Figure 1.—Schematic concept of pressure in "L" position.

and subpapillary venous plexus have been filled. The appearance of color in the skin as reflection of blood filling the capillary or venous plexus at various heights above the heart is felt to be a reflection of the pressure in the arterial system since pressure is necessary for the elevation of fluids, in this case blood, above its source—the heart. The method to be described herein might in reality be called a quantitation of the old and well-tested "elevation pallor" maneuver.

Capillary blood pressure by micro-cannulation was found to be approximately 32 mm. of mercury in the skin of the hand when the hand is held at heart level.<sup>8</sup> This probably constitutes merely a pressure within a normal range, since in a normal person elevating the hands above the head is not followed by blanching of the hands. The pressure necessary on hydrostatic principles to maintain this blood in the hand held above the head would be in the range of 50 to 70 mm. of mercury or 65 to 100 cm. of blood. Inversion of the body is not followed by blanching of the feet, even in extremely tall persons. Capillary pressure thus varies widely and probably also fluctuates with changes in cardiac pressure and central pressure change in the great arteries. It is reasonable to assume that there must be a minimal pressure below which capillary pressure relations are so disturbed that failure of support of cell metabolism takes place. It is also reasonable to assume that gangrene occurs in the distal portion of the extremities with obstruction of main arterial channels due to this failure in the intraluminal capillary pressure. In clinical practice the development of local necrotic lesions of the foot as the result of circulatory failure

alone is somewhat unusual. Such lesions occur more commonly when trauma (physical, chemical or thermal) is superimposed on a previously depressed circulation and, by definition, on a previously depressed capillary pressure.

It is obvious that in an attempt to quantitate capillary pressure by observation of skin color it would be desirable to eliminate the vasomotor tone as a factor, in the hope of reducing the many gradations of color. It likewise would be desirable to secure a situation in which a maximal number of capillaries are available for the filling of the subpapillary venous plexus. If the circulation to a part is arrested over a period of time and then released, the skin flushes and the volume of the part increases because the flow of blood through it is greater for a time than it was before the vessels were occluded. This so-called reactive hyperemia occurs independently of the central nervous system and has been shown to be related to the metabolic debt. Barsoum and Smirk<sup>1</sup> demonstrated the presence of a substance, having the biological properties of histamine, that may be the agent bringing this about. The flow of blood thus produced is as great as can be created, with the exception of that following muscular exercise.<sup>12</sup> Reactive hyperemia has been used to provide an adequate base-line for pressure measurements because a near maximal blood flow can be produced thereby and because of the simplicity of its application.

#### THE ELEVATION REACTIVE HYPEREMIA TEST

I have used a method of estimating the blood pressure in the minute vessels of the skin of the foot by a method involving elevation of the foot and observation of reactive hyperemia in the elevated position. Details of the test procedure are as follows:

With the patient in a supine position on the examining table the extremity to be studied is elevated to a standard height of 65 cm. (measured from the base of the heel to the surface of the table) and kept there for ten minutes. During this period the brachial blood pressure is noted as well as the anteroposterior diameter of the chest at the level of the fourth rib. If no blanching occurs on elevation or if cyanosis or skin pigmentation makes color determination difficult, the femoral artery is occluded by inflation of a blood pressure cuff about the thigh to above the brachial systolic level (Figure 2, A). The feet are then emptied of blood by massage until they are pallid. This pallor is maintained by inflating a pneumatic cuff, previously applied at the ankle, to a pressure greater than the systolic pressure. The cuff at the thigh is then released (Figure 2, B). The occlusion is maintained for a period of 5 to 10 minutes, the longer occlusion periods being used for cold extremities. On release of the occluding cuff,

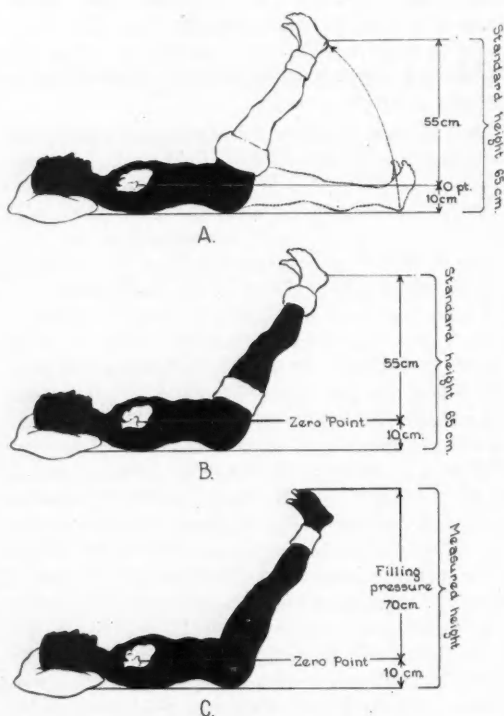


Figure 2.—Method of performance of elevation reactive hyperemia test with tourniquet.

the level to which the flush rises is measured from the surface of the table (Figure 2, C).

Many of the subjects studied with this test had lesions involving the foot, particularly the plantar area, and therefore this area was used extensively for observation. The plantar area was also used because of the reactivity of the blood vessels in this area and the maximum color changes to be seen there, probably due to the enormous number of arterial channels supplying it.

If a hyperemic flush is not observed in the part under observation, that part is lowered in 10 cm. decrements at 30-second intervals until a definite zone of hyperemia or color is seen at or about the lesion or area under consideration. The hyperemic flare customarily seen with the extremity in the horizontal or dependent position may be replaced by the appearance of a light pink or "living color" since, with the foot in the elevated position, the sub-papillary venous plexus, which is largely responsible for the hyperemic color of the skin, is rapidly drained.

In cases in which there is spontaneous and complete blanching on elevation, the occluding cuff is not used, the stimulus to reactive hyperemia being

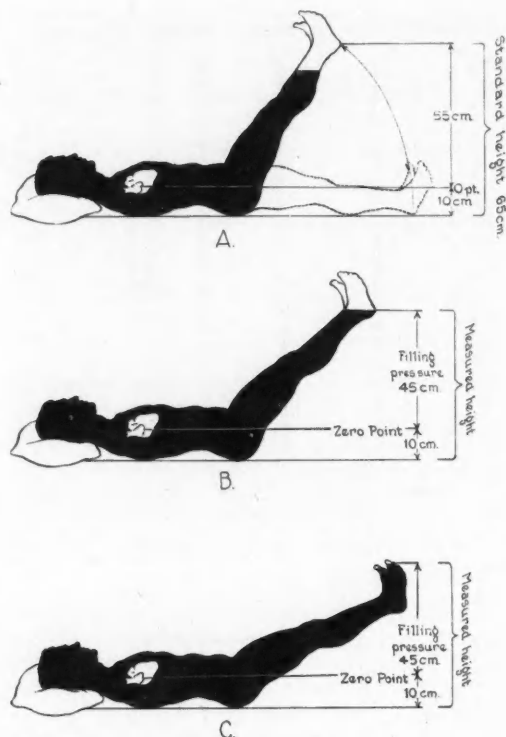


Figure 3.—Method of performance of elevation reactive hyperemia test without tourniquet.

provided by only a 10-minute period of elevation followed by lowering in the previously described fashion (Figure 3).

The level of the right heart halfway through the chest at the 4th rib is used as a zero point or baseline. The anteroposterior diameter of the chest is measured at the level of the 4th rib with an x-ray centimeter scale. One-half of this measurement is subtracted from the measured height—that is, the height from the surface of the table to the top of the hyperemic flush (Figure 2, C and Figure 3, B and C). This measurement is considered to be approximately the pressure, in centimeters of blood above the right auricle, necessary to fill that area. This measurement, or height of color return above the right heart, has been termed the *filling pressure* or *height of penetration of cutaneous hyperemia*.

The determinations are carried out under artificial light, since this seems to enhance the red color upon which the measurement depends.

In normal controls, the entire distal portion of the extremity will fill in a maximum of 45 seconds and in most cases in less than 15 seconds. A similar filling or flushing time exists in patients with vasoconstrictive disease who have cold, pale, wet cyanotic feet.



TABLE 1.—*Fluctuations in Filling Pressure Related to Changes in Brachial Blood Pressure*

Case No.	Lesion	Blood Pressure (Brachial) in Mm. Mercury	Filling Pressure Height in Cm.	Brachial Blood Pressure Change Due To	Blood Pressure (Brachial) in Mm. Mercury	Filling Pressure Height in Cm.
1.	Occlusion, femoral artery	240/145	87 +	Hypertensive heart disease and cardiac failure	160/100	35
2.	Occlusion, femoral artery	260/110	90 +	Hypotensive drugs	160/60	35
3.	Arteriosclerosis of aorta and branches	160/100	75 +	Coronary occlusion, cardiac failure	100/60	10
4.	Occlusion, iliac artery	180/90	85 +	Arteriosclerotic heart disease, cardiac failure	110/70	30

Performance of this test is also useful for delineation of obliteration of small vessels, such as digital arteries, distal to the main arterial trunks. These small local areas of decreased blood supply can be easily mapped out during the performance of this test. Blanching of these areas and subsequent flushing following the lowering of the part indicates that the area has a decreased or failing blood supply as compared with the rest of the foot.

#### USE OF TEST IN PROGNOSIS OF GANGRENOUS LESIONS

In a series of more than a thousand observations, 150 were carried out on patients who had necrotic or gangrenous lesions of the foot and leg. There were 41 cases of amputation at the level of the toes or the forefoot in which studies were carried out preoperatively. The patients were studied carefully by the usual clinical methods, including oscillometry, arteriography, reflex vasodilatation tests, sympathetic nerve block, peripheral nerve block and biopsy, as well as by general clinical and laboratory evaluations. A detailed study of 90 observations was previously reported, as well as a careful evaluation of 33 patients who had amputations at the level of the forefoot or toes.<sup>5,11</sup>

In this test, relatively long periods of ischemia or arterial occlusion are used, because it has been demonstrated that the time necessary to produce maximal blood flow following arterial occlusion is greater in the lower extremity than Scheinberg and co-workers reported was necessary in the upper extremity.<sup>14</sup> Pertinent also is the observation by Greenwood and co-workers<sup>6</sup> that longer occlusion is necessary to produce visible hyperemia when the part is elevated than when horizontal.

The test is designed to be carried out at ordinary room temperatures with the occlusion being provided by an ordinary sphygmomanometer cuff. Table 1 shows the fluctuation in the filling pressure that can occur with changing blood pressures as measured by auscultation at the brachial artery. Thus compari-

son of filling pressure or height of penetration of hyperemia from day to day necessarily must include registration of the brachial arterial pressure. There seems to be a filling pressure or height of penetration of cutaneous hyperemia, as estimated by this method, below which necrotic lesions of the foot do not heal. This height or level approximates 35 cm. above the heart level. Secondly it was noted that primary union or rapid secondary healing of amputations occurred in all cases in which there was penetration of hyperemia to 45 cm. or more at the amputation site. In several cases in which low filling pressures or low penetration of cutaneous hyperemia was accompanied by progressive death of tissue, healing began upon restoration of arterial continuity and an increase of filling pressure. Data on a case in point are given in Table 2.

On many occasions it was observed that although the foot filled at a height well above the required 35 cm., dependent rubor or pronounced reactive hyperemia developed with the limb in the dependent position following bed rest with the leg and foot at heart level. This led to conjecture that effective nutrition might not coincide with filling pressures of 35 to 45 cm.

In an attempt to find out the level at which nutrition was effective, approximately 50 microcuries of I<sup>131</sup> in buffered solution making up a total volume of 1.125 ml. was inserted into the corium of the skin of the foot with a No. 30 hypodermic needle. Just before the insertion of the iodine, the sole of the foot was blanched either by occlusion of the femoral artery or by elevation alone and the ischemia was maintained by blood pressure cuff inflated to 300 mm. of mercury at the ankle. Immediately following the insertion of the iodine into the skin of the foot, a scintillation counter was positioned against the sole or dorsum of the foot and counts were recorded for not less than 5 minutes or more than 10 minutes. It was noted that the iodine remained where it had been placed so long as the occluding cuff was in place. Following deflation of the

TABLE 2.—Progress in an Extremity in Which Low Filling Pressure Was Accompanied by Gangrene of First Right Toe

Lesion	Height of Penetration of Hyperemia (Cm.)	Result
Arteriosclerotic obstruction of femoral artery; gangrene first right toe	0	Progression of lesion
Treatment	Postoperative Height of Penetration of Hyperemia (Cm.)	Result
Femoral thromboendarterectomy	45	Amputation of toe and primary union
Course	Height of Penetration of Hyperemia (Cm.)	Result
Re-thrombosis of femoral artery at 6 months	0	Recurrence of gangrene in stump

cuff the test was carried out in the usual manner and at the same time counts were made with the scintillation counter as the extremity was gradually lowered. Six patients were so studied and it was noted that the  $I^{131}$  was not removed significantly until levels of 45 cm. or more below the maximal filling pressure were reached. Similarly, in previous studies on three patients with the use of histamine diphosphate, it was observed that a histamine wheal could not be produced until the part had been depressed approximately 60 cm. below the maximal filling pressure or height of penetration of cutaneous hyperemia.

These studies indicated that perhaps filling pressures of 45 to 60 cm. are necessary for certain capillary functions. Neither of these studies, that with histamine or that with radioactive iodine, was sufficient either in number of tests or in detail to permit analysis; they merely indicate the direction of further investigation of this type in the study of capillary function in patients with obstructive or functional arterial disease. Appearance of the hyperemic flush was also checked against the increase in volume as the first blood entered the digit, using the Burch-Winsor digital plethysmograph. The two methods agreed quite closely.

Sympathetic paralysis, as produced by sympathectomy, lumbar sympathetic nerve block or peripheral nerve block, in most instances brings about a definite increase in the filling pressure.<sup>10</sup> To produce such a result the pressure in the more proximal larger vessels would necessarily be elevated. Blood pressure studies carried out at the ankle and wrist showed a definite rise following sympathetic paralysis, substantiating the findings of the elevation reactive hyperemia test in this regard.<sup>4</sup>

3619 California Street, San Francisco 18.

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# A Test for Myocardial Infarction

## The Present Status of the Use of Serum Lactic Acid Dehydrogenase

H. T. WILSON, M.D., J. A. LAZARONI, JR., Ph.D.,  
and E. C. MAIER, B.S., San Bernardino

IN 1954 and 1955 Hill and Levi and other investigators reported the serum content of the enzyme *lactic acid dehydrogenase* (LDH) to be elevated in neoplastic diseases. They studied 51 patients with cancer.<sup>1,2</sup> This enzyme was also shown to be increased in the serum of patients with myocardial infarction.<sup>6,8</sup> Further reports have tended to emphasize the value of this test in myocardial infarction<sup>7</sup> and perhaps in liver disease, and to minimize its value in cancer detection.<sup>4,9</sup> Our own observations are here reported as another fragment of knowledge regarding the uses of this test.

### METHODS

Serum lactic acid dehydrogenase determinations were done according to the method of Hill and Levi.<sup>2</sup> Blood was drawn with special care to avoid hemolysis. The serum was separated from the specimen within one hour after collection, centrifuged until no blood cell sediment could be observed macroscopically and then centrifuged a final time. The specimens of serum were stored frozen in Wassermann tubes in amounts to be diluted for the test procedure. Determinations were done in duplicate on all specimens on two successive days. The determinations were made in a Beckman Model B Spectrophotometer at a wave length of 340 millimicrons using 1 cm.<sup>2</sup> cuvettes. The LDH activity was determined in units of optical density change. One unit is equal to an optical density change of 1.00 per ml. per 30 minutes at 38°C. in a substrate pH of 7.8. The substrate was prepared according to the method of Hill and Levi.<sup>2</sup> All solutions except the buffer were prepared fresh each day.

The following clinical groups were tested: 30 patients with carcinoma, 23 with myocardial infarction, 11 with liver disease, 47 with miscellaneous illnesses, 11 with infectious mononucleosis and 39 with uncomplicated pregnancy. All patients with myocardial infarction had electrocardiographic evidence in support of this diagnosis. Three died and in two the diagnosis was proved by autopsy. In the patients with cancer the lesions were localized in four instances and disseminated in 16, five had

• Determination of the amount of lactic acid dehydrogenase in the blood has been demonstrated as a useful aid in the diagnosis of myocardial necrosis. The reliability of the test and the time element of the appearance and disappearance of the enzyme in the blood give it advantages over transaminase determinations. In addition there appears to be a correlation of lactic acid dehydrogenase content with metastatic carcinoma. The levels of the substance correlate with the presence or absence of metastatic lesions and also with the extent of the metastasis. Few other clinical states are associated with increased levels of this enzyme, and in most instances the few that are can be excluded by other reliable criteria.

leukemia and five had unclassified malignant disease. The diagnosis of infectious mononucleosis was established by a significant heterophil titer or a rise in titer in two or more specimens. The normal range was established by test of 268 patients showing no evidence of clinical disease.

### RESULTS

Comparison of the various groups evaluated (Table 1) showed lactic acid dehydrogenase to be always elevated in myocardial infarction, and high values were obtained as late as two weeks after the

TABLE 1.—Comparison of Lactic Acid Dehydrogenase Values in Patients with Various Diseases and Normal Persons

Clinical State	No. of Cases	No. of Tests	LDH Units	
			Mean	Range
Carcinoma:				
Disseminated.....	21	22	25.5	16 to 80
Localized and unclassified.....	9	11	14.0	9 to 19
Myocardial infarcts.	23	27	25.5	10 to 65
Liver disease.....	11	13	15.0	7 to 19
Infectious mononucleosis.....	11	14	19.25	14 to 57.0
Uncomplicated pregnancy.....	39	42	9.5	7.5 to 13*
Miscellaneous:				
Infections.....	15	15	10.0	7.5 to 12.0
Others.....	32	36	10.0	7.0 to 44.0†
Normals.....	268	320	10.0	7.5 to 12.5

Standard Deviation = 0.88, Range: 8.3 to 11.8.

\* 1 case—13 units. † 4 cases—above 13 units, terminal.

The Clinical Laboratory of San Bernardino.  
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attack. In metastatic carcinoma the LDH content was consistently high, with the extreme elevations usually associated with leukemia. Patients with liver disease showed the least striking variations in serum lactic dehydrogenase and oftentimes normal levels were obtained in the absence of jaundice (Table 2). In cases of infectious mononucleosis the LDH determinations were consistently high and appeared to vary directly with the heterophil titer. Levels in uncomplicated pregnancy were within normal limits, as observed by Hill<sup>3</sup> subsequent to his initial report of elevated levels and in agreement with the work of McDonald.<sup>5</sup>

#### DISCUSSION

The usefulness of lactic acid dehydrogenase determinations in myocardial infarction seems well established. There has been a total of at least 118 cases reported in the literature since the original observation made by Wroblewski and LaDue.<sup>8</sup> It has been pointed out in recent articles by White<sup>7</sup> and McDonald<sup>5</sup> that elevated serum values of this

enzyme may be present at least a week following infarction. This sets the lactic dehydrogenase determination above the transaminase determination as a guide to the presence or absence of myocardial necrosis.

In liver disease there is obviously great need for further study of the associated presence of this enzyme in the serum. There have been 22 cases of hepatitis and 40 cases of cirrhosis reported, not including Wroblewski's. It appears that a certain proportion of patients with liver disease, particularly those with active hepatitis in the presence of jaundice, have an elevation of this enzyme in the serum. However, the relationship of the appearance of this enzyme to changes in the serum proteins has not been well worked out and the role of some degree of hepatic cell necrosis has not been determined. This would seem to be a good field for further clinical and laboratory observation.

The controversial problems surrounding the development of the so-called "cancer test" are well illustrated in these studies. Determination of ele-

TABLE 2.—Comparative Laboratory Values for Various Tests in Liver Disease

Case No.	LDH* Units	Cephalin Flocculation	Total Bilirubin mg. per 100 cc. Serum	Serum Proteins† (Per Cent. of Total)				
				Albumin	Globulins			
					Alpha <sup>1</sup>	Alpha <sup>2</sup>	Beta	Gamma
1.....	12.0	3+	....	45	6	8	20	21
2.....	7.0	4+	....	53	5	10	14	18
3.....	15.0	....	....	....	....	....	....	....
4.....	16.5	4+	....	....	....	....	....	....
5.....	17.5	4+	3.8	45	7	11	7	30
6.....	19.0	4+	....	....	....	....	....	....
7.....	16.0	....	....	....	....	....	....	....
8.....	12.0	....	....	....	....	....	....	....
9.....	16.5	4+	....	....	....	....	....	....
10.....	9.0	4+	3.9	39	6	8	18	29
11.....	9.5	4+	2.4	36	5	10	17	32

\*Lactic acid dehydrogenase.

†Normal range of serum proteins: Albumin—50 to 55%; Globulins: Alpha<sup>1</sup>—4 to 7%; Alpha<sup>2</sup>—7 to 11%; Beta—11 to 15%; Gamma—16 to 18%.

TABLE 3.—Lactic Acid Dehydrogenase Values in Carcinoma as Reported by Various Investigators, 1954-1955

Report	Units	Patients with Carcinoma			Controls		
		No.	Mean	Range	No.	Mean	Range
Hill, B., et. al.....	O.D.* change in 30 minutes per 0.01 cc. serum	51	0.21	0.110 to 0.670	104	0.085	0.049 to 0.110
Zimmerman†.....	Micro-mols of DNPH‡ per 100 cc. serum in 30 minutes	30	50 per cent of patients were elevated	100 to 800	40 Normal	181	80 to 250
Hill, J. H.....	O.D. change in 30 minutes per 0.01 cc. serum	87	0.149	0.060 to 0.583	309	0.143	0.048 to 0.462
Present study.....	O.D. change in 30 minutes per 1.0 cc. serum	30	18.5	9.0 to 80.0	268 Normal	10.0	8.3 to 11.8
Disseminated.....		21	25.5	16.0 to 80.0	47 Misc.§	10.0	7.0 to 44.0
Localized and unclassified..		9	14.0	9.0 to 19.0			

\*O.D. = Optical density.

†Zimmerman did not divide cases as to localized or metastatic.

‡Diphosphopyridine nucleotide (reduced).

§Miscellaneous controls were clinical states excluding carcinoma, myocardial disease, infectious mononucleosis, and liver disease (see Table 1).



vated amounts of lactic acid dehydrogenase in serum was first thought to be a reliable index of the presence of cancer and was so reported by B. Hill and others in 51 cases.<sup>2</sup> They found this enzyme to be increased in the serum and the amount to be significantly higher than in the serum of normal persons and patients with other clinical states, such as tuberculosis and pregnancy. However, Zimmerman reporting on 30 cases<sup>9</sup> and J. H. Hill reporting on 87 cases,<sup>4</sup> found only slight differences between patients with other illnesses and those with neoplastic diseases.

Our own observations in this field are summarized in Table 3 and comparison is made between the cases reported by other workers and those in our series. It is to be noted that division between metastatic and local involvement was not reported by all investigators. Our determinations indicated elevation of LDH in almost all patients with carcinoma. The mean was 18.5 units. In only five of these cases was the malignant lesion thought to be strictly localized, in 21 it was metastatic and in four cases unclassified. In the cases of dissemination as a group, the mean level was consistently elevated and showed a higher average (25.5 units) than the group as a whole. This is in agreement with the observations of McDonald.<sup>5</sup>

From our own observations we can conclude, with more certainty, that the lactic acid dehydrogenase level in serum will be elevated in most cases of metastatic carcinoma.

P. O. Box 329, San Bernardino (Lazaroni).

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#### Social Security Says:

"YOUR SOCIAL SECURITY TAXES pay for these nine programs: Social insurance: (a) Unemployment insurance; (b) Old Age and Survivors Insurance. Public assistance to the needy: (a) Old-age assistance; (b) Aid to the needy blind; (c) Aid to dependent children; (d) Aid to the permanently and totally disabled. Children's services: (a) Maternal and child health services; (b) Services for crippled children; (c) Child welfare services."

In other words: In spite of the fact that most of these represent federal grants to state aid, this Social Security program is being sold to you and me as "contributory social insurance."

—From the Department of Public Relations, American Medical Association

# Varicose Veins

## A Practical Approach to Treatment

ROBERT ELLENBURG, M.D., Los Angeles

THE TREATMENT of varicose veins has undergone many changes within the past 20 years. No one method of treatment has been found to give good results consistently. Removal of the involved veins by the internal stripping procedure has been generally the most effective of the surgical methods. Best results are obtained by a combination of stripping, multiple ligations and postoperative injection of sclerotic substances. The purpose of this article is to focus attention on ways and means of handling the patient with varicose veins that will simplify the operation and improve the results.

Selection of the patient for operation is always of primary consideration. Operation is indicated in all cases of varicose veins in which there is pain, pigmentation, sclerotic contracture or ulceration or other stasis changes of the soft tissues. Sometimes, coexisting serious systemic disease may be a contraindication and some observers consider pregnancy a contraindication to surgical treatment of varicose veins. A pregnant patient who had varicosities before she was pregnant, however, should be treated as a nonpregnant patient. The author has treated varicosities in many pregnant women with as good results as in nonpregnant patients.

A thought often expressed is that if the superficial system of veins is obliterated in a person who has had deep venous thrombosis, there will be no way for the blood to return from the extremity. Practically, however, veins that have become varicose, enlarged and incompetent do not carry blood in the proper direction, but instead add to the burden of the competent veins, most of which are within the muscle, or between muscles and form the deep system of veins. If any doubt exists in a particular case, the patient may be made to walk with a tourniquet around the upper thigh sufficiently tight to cut off the superficial venous return. If pain develops surgical treatment of the superficial veins might be contraindicated. Rarely does that occur, however, in a chronically involved leg.

Best results of surgical therapy are obtained by mapping out "blow out" areas, incompetent com-

• Adequate treatment of varicose veins requires thorough mapping of perforating veins, communicating veins and "blow out" areas. Combined ligations, stripping and injection of sclerotic substances after operation is the most effective regimen of therapy.

The technique of stripping is facilitated by isolating the saphenous vein at the ankle, inserting the stripper from below upward, then making a transverse groin incision over the palpable stripper. The tip of the stripper should be twice the diameter of the vein to be removed. Stripping should be done with the patient in the Trendelenburg position.

All patients must be examined at regular intervals after operation and injection of sclerosing material carried out as necessary.

communicating veins and large masses of veins well beforehand. Too often this is not done until just before operation, when the patient is premedicated, it cannot then be done adequately. The multiple tourniquet test can help greatly in determining the sites of incompetent communicating veins. In this test, the veins are emptied by elevation of the extremity and then the suspected area is isolated between two tourniquets. Filling of a vein between the tourniquets in 30 seconds or less is evidence of an incompetent communicating vein which should be marked for ligation at operation. Also helpful for locating incompetent communicating veins is the Pratt test: A tourniquet is applied to the thigh and the entire leg is bandaged up to the tourniquet. The bandage is slowly unwound from above, downward. A bulge appears when the site of an incompetent communicating vein is uncovered.

Skin marking, although seemingly an insignificant detail, is a problem. Many solutions have been tried, but none have proven entirely satisfactory. Markings made with a ball-point pen, silver nitrate or a dye are easily seen but have the disadvantage of washing off, burning the skin or fading out in the preoperative preparation of the extremity. It is best to mark the sites temporarily with a ball-point pen and then after the patient is anesthetized and before the leg is prepared make scratch marks on the skin with a pin or knife. The anesthesia of choice is spinal anesthesia, supplemented

From the Vascular Service White Memorial Hospital, College of Medical Evangelists.

Submitted August 9, 1957.

with Pentothal (thiopental sodium) if the patient wishes to be asleep. The entire extremity and lower abdomen should be prepared as the operative field. A rubber glove provides a cover for the toes and yet permits good exposure of the malleolar regions.

Some difference of opinion exists as to type and location of incision for high saphenous ligation. After adequate trial of various incisions, the author adopted an incision made directly in the groin crease as offering the most advantages. The saphenofemoral junction is higher than it is generally thought to be and this rather high incision gives exposure above the junction where the important tributary veins need to be isolated and divided. Incision at the groin heals primarily and is less painful than other types as there is no pull or skin tension in the groin crease. Dissection beneath the skin may be in a vertical direction just as with the vertical incision, and therefore there is no greater destruction of the lymphatic chain. When tributary vessels are encountered, it is best to section and ligate them immediately to avoid accidental tearing of the vessel and consequent hemorrhage and retraction into the soft tissues.

The saphenous vein is retracted with a Penrose drain until it is unquestionably identified. Identification can only be positive when the junction with the common femoral vein is clearly demonstrated. At this time the bulb is ligated with a free ligature and a suture ligature. The vein is then sectioned distal to the ligatures. An intraluminal stripper may be inserted at this time from above, but very often valve cusps that point upward will arrest the tip of the stripper and keep it from being passed the entire length of the leg. The author has found it better to isolate the greater saphenous vein through an incision 1 centimeter long anterior to the internal malleolus and pass the intraluminal stripper from below upward. Usually it can be passed to the groin without difficulty. This may be done before the groin dissection and palpation of the stripper in the saphenous vein then will facilitate identification of the vein. Sometimes to get it entirely through the vein the stripper may have to be passed in both directions, the vein being tied to it superiorly and inferiorly. This prevents unnecessary loss of blood; and if the stripper, not functioning perfectly, does not remove the segment of vein intact, the fragment left behind is smaller and easier to cope with because of the lesser distance.

As to the kind of stripper, I find one with a very flexible shaft and interchangeable heads (olives) of varying sizes to be the most useful. The Zollinger-Gilmore stripper is one such.

After the stripper has been placed within the vein, attention should be turned to the areas marked for exploration. There are several reasons for delaying

the actual stripping. One is that bleeding after stripping can be greatly decreased if the patient is in a Trendelenburg position, but this position makes dissection and identification of communication veins and vein masses more difficult, as it causes them to collapse. Another reason for delaying stripping is that pressure in the form of elastic bandages should be applied as soon afterward as possible to reduce bleeding, and unless the low ligations have not been done before the stripping, it may be a considerable time before bandages can be applied. The veins underlying the preoperative marks are treated by ligation and segmental removal. If both legs are being treated, they are both brought to this stage.

The patient is tilted into moderate Trendelenburg position for the stripping procedure. Steady traction is applied to the stripper, care being taken not to bend the stripper too acutely lest it be damaged. For the vein to come out in the desired manner, it must pleat or accordion on the stripper. Failure is usually due to using an olive tip that is too small, which may result in inversion and breaking off of the vein or a longitudinal splitting. If either occurs the remaining piece of vein can be re-engaged through a secondary incision made along the course of the vein. The olive tip should be at least twice the diameter of the vein. If the right size is not available, tying a 1-inch Penrose drain securely over the olive will make it function like a larger tip. The drain must be moistened so that it will slide easily, and is pulled through the subcutaneous canal as the vein is removed. When it appears at the fossa ovalis it is secured with a hemostat and the stripper is cut free. If upon careful examination of the vein it is found that all of it has been obtained, the Penrose drain is withdrawn. If some of the vein inverted and then broke, it will be found surrounding the drain and can be removed. After the vein has been stripped, some bleeding is to be expected, but putting the patient in the Trendelenburg position usually controls it adequately; if it does not, residual bleeding is easily controllable by pressure.

Elastic bandages are applied from toe to groin. The wrappings of the thigh should be removed in 24 to 72 hours. The elastic bandages on the lower leg are maintained until there is no longer any significant edema. The incisions of the lower leg heal more slowly than those of the upper, particularly if there are pronounced stasis changes. It is well, therefore, to leave the sutures in place in the lower leg for ten days to two weeks. The groin and thigh incisions heal rapidly and sutures there may be removed in five days.

The author strongly believes that injection therapy has no place in the treatment of the usual varicose vein problem except after surgical resection and obliteration of the large venous channels. The

use of sclerotic agents before operation produces segmental obstruction without obliterating the vein, making stripping ultimately much more difficult. Moreover, if sclerosing drugs are used in large enough amounts to cause thrombosis in a large vein, considerable perivenous reaction results.

If it is to be used, injection therapy should be started approximately a month after operation. The author has found a 1 per cent solution of sodium Sotradecol® (sodium tetradecyl sulfate) satisfactory. Three per cent solution causes too much reaction. Injections, each about 0.5 cc. of solution, are done with the patient standing. Pressure is applied with a cotton ball at the site of injection as the needle is withdrawn. Pressure then is maintained for 24 hours by an elastoplast bandaid and elastic bandaging of the extremity. Usually not more than six injections are done at a sitting, for that is about the limit of calm tolerance for most patients and, also if there is much reaction to the sclerotic substance the pain in the leg will be proportional to the number of injections. Injections are repeated at intervals of three weeks until the desired result is obtained.

To obliterate unsightly superficial "spider-web" veins, one must insert a needle into one of the larger or "feeder" veins. A No. 25 (French) short-bevel needle is advisable. If a long bevel is used, the needle may appear to be within the vein even though part of the bevel is outside, which might lead to extravascular injection of the sclerotic substance. A dilute sclerosing solution such as one-half of 1 per cent sodium Sotradecol or Sotradecol foam produced by shaking a bottle of 1 per cent solution is used. When the needle is properly placed, it is possible to see that the blood is driven out of these fine veins as the injection proceeds. If any swelling is noted, the injection should be stopped immediately.

This thought must be impressed upon the minds of patients with varicose veins: Recurrences are to be expected, and repeated examinations and sclerosing injections at six-month intervals are necessary. Since "See your dentist twice a year" is quite well accepted and dental patients do not feel they have been inadequately treated if another cavity is found on subsequent visits, this may be used as an analogy in explaining the varicose vein problem to patients.

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# Atypical Manifestations of Gout

EUGENE COODLEY, M.D., Los Angeles

BECAUSE THE CLASSIC PICTURE of gouty arthritis is so well known, even to the layman, there is a special danger of missing the diagnosis in atypical cases of this disease. Gout is not a rare cause of arthritis, but has been estimated to account for almost 5 per cent of nonsurgical joint disease. Essentially, it is an inequality between production and elimination of uric acid resulting in various bodily changes, primarily of the joints but also of other systems.<sup>3,12,13</sup>

Uric acid formation in the body depends on four factors: The availability of precursors, the rate of formation of purines from these precursors, the direct transformation (oxidation) of the purines and the speed of cell formation.<sup>4,14</sup> Radioisotope studies have shown that in patients with gout the miscible pool of uric acid is larger and the daily turnover is smaller. There is no clear-cut evidence that renal excretion is defective in gouty patients, except in those renal complications which are secondary to the long-standing disease.

Uric acid concentration in serum or plasma above 6 mg. per 100 cc. in males or 5.5 mg. in females is considered abnormal. The concentration may be normal early in the disease or between attacks, but it eventually rises to abnormal levels in three out of four patients. Other causes for an increase in uric acid, such as blood dyscrasias, psoriasis and renal disease, must be eliminated from diagnosis. It must be remembered, too, that uric acid content is depressed by a number of drugs which are uricosuric, among them salicylates, phenylbutazone, cortisone and corticotropin (ACTH).

Tophi, although present eventually in almost half the cases of gout, are rarely seen early. They should be looked for in the elbow, the ear, the Achilles tendon, the knee and in bunions (Figure 1). Unlike rheumatoid arthritis, gout does not cause nodules under the olecranon. Tophi may occur on finger-joints, simulating Heberden's nodes. Ulcerating sinuses may form, and the characteristic material can be demonstrated by microscopic or chemical studies.

Roentgen changes, too, usually occur late in the disease, and in only a fourth of all cases. They usually involve the hands or feet, and represent replacement of normal subchondral structure by urate deposits (Figure 2). Later, cartilage is destroyed and

• Atypical occurrence of gout (in a 37-year-old Negro woman and in an 11-year-old girl) and atypical manifestations (involvement of both hands and both feet, and of shoulders, elbows, wrists or ankles) are reported in a study of five cases. Because specific and effective therapy for gout is available, and because the diagnosis, once suspected, is readily confirmed by estimation of plasma uric acid content and by therapeutic trial, it becomes more urgent to recognize that gout is a frequently overlooked diagnosis.

the joint may be obliterated. Other causes of a similar punched-out appearance in roentgen films must be considered—Boeck's sarcoid, trauma, rheumatoid arthritis, hyperparathyroidism and even osteoarthritis.

A fourth of all patients with gout have chronic gouty arthritis. Gout may involve the patella without causing demonstrable lesions in other bones,<sup>9</sup> while at the other extreme is widespread ankylosis simulating rheumatoid arthritis, as described by Bauer.<sup>2</sup>



Figure 1.—Various locations of tophi.

Consultant in arthritis, Cedars of Lebanon Hospital, Los Angeles.  
Submitted September 9, 1957.

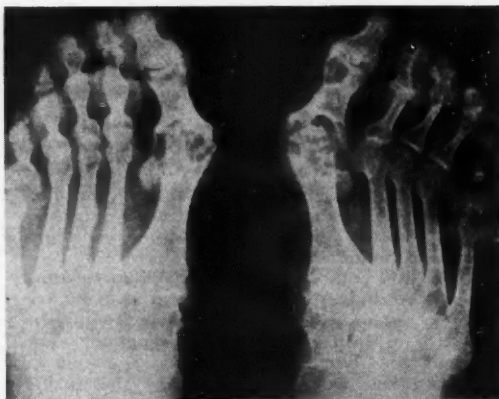


Figure 2.—Roentgen changes typical of gout in feet.

Renal changes include formation of urate stones in 10 to 15 per cent of patients. These stones also tend to form during therapy with certain drugs that promote copious uric acid excretion—benemid, probenecid, for example. The stones tend to pass spontaneously, and often precede the first arthritic manifestations. Albuminuria, also, may occur before arthritis, as it does before nephritis, hypertension or pyelonephritis.<sup>6</sup> A syndrome of renal complications described by Modern<sup>8</sup> consists of renal insufficiency, fixed specific gravity and azotemia, with normal blood pressure and no albuminuria.

The eyes are sometimes involved in this disease, and paraplegia related to cerebral deposition of urates was described by Koskoff.<sup>7</sup>

Differential diagnosis must exclude post-traumatic arthritis, in which the symptoms appear immediately after trauma, are localized to the area of trauma and do not respond to colchicine; intermittent hydrops, in which the pain and swelling are less pronounced than in gout; rheumatic fever, in which migratory pain and cardiac diseases are distinctive; rheumatoid arthritis, in which there is no complete remission between attacks and in which daily morning fibrositis is a feature, as well as the location of joint involvement, the predominance in females and the lack of response to colchicine. Acute cellulitis and infectious arthritis must also be distinguished, but tend to respond specifically to antibiotics. Arthritis of the acute episodic rheumatoid type may closely simulate the recurrent attacks of gout, but usually symptoms begin after a time to persist between attacks, and morning fibrositis is present.

As indicated above, prompt response to a full course of colchicine is often of diagnostic value; but definitive treatment has advanced well beyond the mere administration of this drug and dietary restrictions. It varies in the three phases: The acute

attack, the period between attacks, and the chronic disease.

During acute episodes, colchicine should be taken orally, a single 0.5 mg. tablet every hour, or two tablets every two hours, until symptoms subside or until gastrointestinal cramps and diarrhea develop. These symptoms are controlled with bismuth and paregoric, and no further colchicine is given for 36 to 48 hours. Colchicine may be administered intravenously also, in a dose of 1 to 3 mg. Phenylbutazone is also effective in an initial dose of 600 to 800 mg. the first day, followed by 100 mg. three times daily for several days. Cortisone or corticotropin may be used, but toward the end of steroid therapy colchicine should be given for several days (0.5 mg. every six hours) to prevent rebound recurrence. General measures include fluids, heat, avoidance of purine and alcohol, elevation of the affected joint and salicylate as necessary.

Between attacks, the maintenance dosage of colchicine varies from three or four tablets (0.5 each) a week to two tablets a day, according to the patient's tolerance and the severity and frequency of attacks. The diet should be low in fat and purine, high in carbohydrate, but controlled in caloric intake to prevent obesity. Alcohol should be allowed only occasionally. A uricosuric agent should be administered, such as probenecid, which reduces tubular urate reabsorption and increases uric acid excretion. A few patients need only 0.5 gm. of this drug a day; others as much as 2 gm. The average requirement is 1.5 gm. a day in two doses. The initial doses should be small, to avoid too great a mobilization of uric acid with stone formation. Other precautions must be taken in administering probenecid; it may be given concurrently with colchicine, with a high fluid intake and with alkalinizing agents such as sodium citrate.

The management of chronic gout<sup>5</sup> requires the same measures with diet and probenecid. Surgical operation may be indicated for removal of tophi that are excessively large or unsightly or in painful locations such as the heels, the distal interphalangeal joints or the elbow. Tophi may be disabling also when they involve muscle tendons. Chronically discharging sinuses with tophaceous deposits likewise may be removed surgically.

To illustrate the atypical diagnostic features and the complications in management that may be encountered in gout, the following cases are reported:

**CASE 1.** A 37-year-old Negro woman complained of painful swelling of both hands, recurring every few weeks and lasting several days each time. These symptoms had been present for five years. There had been one episode of swelling of the left foot three years before, but never any involvement of the



Figure 3.—Cystic areas of erosion seen in distal ends of metatarsals in 37-year-old Negro woman (Case 1).

big toe of either foot. The patient described the attacks as usually starting in the early morning and reaching a peak by afternoon. One hand was usually involved, particularly in the area of the carpometacarpal articulations, and the area would become red, warm, shiny and swollen. Symptoms persisted several days, and then gradually subsided. There was no history of arthritis otherwise, no history of venereal infection, rheumatic fever or known foci of infection. The family history was noncontributory, and physical examination revealed no significant abnormalities. The only significant laboratory finding was the serum uric acid concentration, 6.6 mg. per 100 cc.

Roentgen studies showed multiple cyst-like rarefactions at the metacarpophalangeal joints and also at the metatarsophalangeal joints of both feet, without evidence of osteoporosis or joint destruction (Figure 3).

The patient was treated with colchicine orally at the next attack, with prompt relief of symptoms and no evidence of toxicity. She was then restricted to a low fat, low purine diet, and given colchicine (four 0.5 mg. tablets weekly) and benemid probenecid (1 gm. daily). In the next two years, only two mild episodes of joint pain and swelling occurred, and there were no symptoms between attacks. The blood content of uric acid after several months and subsequently was within normal range—from 3.5 to 4.5 mg. per 100 cc.

*Comment:* Gouty arthritis in a Negro woman was first reported in 1953 by Perlman and co-workers<sup>10</sup>

and in the following year Bartfeld<sup>1</sup> reported a similar case, but both the patients had passed the menopause. The present case is the first reported in a Negro woman before the menopause. The characteristic clinical picture, the response to colchicine, the uric acid concentration, and the roentgen findings corroborated the diagnosis. The response to therapy was striking, and none of the possible complications of benemid therapy occurred in the two years that she was observed.

**CASE 2.** A 64-year-old white woman had had joint disease from the age of 53. Initially the knees became swollen and painful; later the hands and shoulders were involved. The hands and knees had been swollen intermittently, with gradual development of deformity and limitation of motion. Walking was impeded. No systemic symptoms such as loss of weight, fever, fatigability or anorexia were noted during this period. Morning pain and stiffness had been present more than three years. The history was noncontributory except for mild benign hypertension which had been present for 25 years. Blood pressure was 210/95 mm. of mercury. There was slight cardiac enlargement and a Grade II systolic aortic murmur. In both hands the carpophalangeal and proximal interphalangeal joints had nodular swelling, slight tenderness and moderate limitation of motion. Both elbows had subcutaneous subolecranon nodules. In the right ear lobe a small, firm, non-tender nodule was palpated.

Serum uric acid of content was 7.7 mg. per 100 cc. The sedimentation rate was 36 mm. per hour (Westergren). Material aspirated from the nodule in the ear lobe revealed chronic fibrosing granulation tissue bearing uric acid crystals. The albumin-globulin ratio was 4.6/3.3 and total protein content 7.9 mg. per 100 cc. No abnormality was noted in an electrocardiogram.

Roentgen films showed cystic areas of rarefaction in the distal ends of the metacarpals, small areas of erosion in the proximal interphalangeal joints, areas of rarefaction in the carpal bones and right ulna, cystic areas of rarefaction in articular surfaces of both elbows and narrowed joint space in the knees, with bone erosion and cystic areas (see Figures 4 and 5).

Therapy included low-fat, low-purine diet, benemid probenecid in dosage of 1 gm. daily and colchicine in dosage of two 0.5 mg. tablets daily. Salicylates were not used because of possible interference with benemid effect. Pains and stiffness gradually improved and the therapy was well tolerated. Walking became easier and there was slightly more hand motion present. No evidence of benemid toxicity or gastrointestinal distress due to colchicine was noted. At the time of this report this regimen was still being followed and the disease was in fairly good control.

*Comment:* For many years this patient had been treated as having rheumatoid arthritis. A course of



Figure 4.—Cystic areas about the left knee of 64-year-old woman (Case 2).

gold therapy had not helped and she had also received steroids with only slight benefit. The widespread distribution of joint involvement and the fact the patient was a woman contributed to the confusion in diagnosis; moreover, the cyst-like structures observed roentgenographically resembled those of rheumatoid arthritis. The characteristics of the attacks, the other roentgen findings, the presence of tophi, and the concentration of uric acid led to the definitive diagnosis and specific therapy.

**CASE 3.** An 11-year-old white girl had acute onset of pain and swelling in the left first metatarsophalangeal joint lasting several days, then spontaneously disappearing but recurring several months later. No other joints were involved; there was no fever, chill or malaise. An aunt and an uncle of the patient had had gout.

When first observed, the first left metatarsophalangeal joint was acutely swollen, discolored, tender and limited in motion by pain. All other joints were normal, as was the general physical condition.

The plasma uric acid content was 7.7 mg. per 100 cc.; the sedimentation rate 36 mm. in one hour. On roentgen study the left foot appeared normal. An electrocardiogram showed no abnormality.

A diagnosis of acute gouty arthritis was made, and when colchicine was given there was prompt



Figure 5.—Bony destruction seen in wrist and metacarpals in woman 64 years of age (Case 2).

remission. One additional flare-up of a similar type was noted in the next six months despite maintenance dosage of salicylates and avoidance of high purine foods. Thereafter, benemid probenecid was given in dosage of 1 gm. daily with sodium bicarbonate in dosage of 2 gm. daily. No further attacks occurred in the next year and six months later the plasma uric acid content was 4.4 mg. per 100 cc. No other joint manifestations developed, and no toxic reaction to the drugs was noted.

*Comment:* Benemid is usually not required for so young a patient, since diet and salicylates alone or in conjunction with colchicine are usually adequate; but with recurrent attacks or gastrointestinal disturbance from salicylates when given in adequate doses, the use of benemid must be considered.

**CASE 4.** A 52-year-old white woman was first observed for acute painful swelling of the right wrist, which had persisted four days, with redness, local tenderness and limitation of motion by pain. There had been no preceding trauma and no other joints were affected. One similar episode had occurred several months before. There was no other joint disease and upon physical examination no other abnormality was noted. The number of leukocytes was slightly above the upper limits of normal; the sedimentation rate 32 mm. in one hour (Wester-



gren). Plasma uric acid content was 7.4 mg. per 100 cc. No abnormality was observed roentgenographically.

Colchicine therapy was followed by prompt remission and was maintained in gradually reduced dosage. Salicylates were administered also and a restrictive diet was prescribed. At the time of this report, there had been no further attacks, and serum uric acid, as determined on several occasions, was less than 5 mg. per 100 cc.

**CASE 5.** A 32-year-old white man had periodic painful swelling of one or both ankles, accompanied on one occasion by swelling of the large toe. These attacks were occurring every month or oftener, and more recently a slight painful swelling had persisted between attacks. When the patient was first observed, only the left ankle was swollen. There was no systemic, venereal or other joint disease and no significant family history. Plasma uric acid content was 6.4 mg. per 100 cc. and there were no other significant laboratory or roentgen findings.

Colchicine therapy at first produced only slight improvement, and a second course gave rise to cramps and diarrhea before any substantial improvement was achieved. Corticotropin gel was then given, 60 units a day, and on the third day colchicine therapy was resumed in a dosage of one 0.5 mg. tablet three times a day. Symptoms gradually receded and maintenance dosage was continued, but after six weeks painful swelling recurred in the opposite ankle, although uric acid content was normal. Phenylbutazone was given in doses of 600 mg. the first day and 300 to 400 mg. daily for several days thereafter. Symptoms gradually receded without toxic manifestations, and thereafter a dosage of 1 gm. of benemid a day was maintained and the disease did not recur.

**Comment:** This case illustrates the difficulty of differentiating episodic rheumatoid from gouty arthritis when clinical and laboratory observations are more equivocal. In the presence of some persistent symptoms between attacks and involvement of several joints, episodic rheumatoid or early Reiter's syndrome must be considered, but the character of

attacks, slight increase in uric acid, response to therapy, and negative result on hemagglutination test made the diagnosis of gouty arthritis more probable. Several methods of treating acute arthritis were used in this case, and maintenance therapy with benemid was instituted because of the frequency of attacks. No salicylates should be given concurrently with benemid because they interfere with its action on the kidney.

6010 Wilshire Boulevard, Los Angeles 36.

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# Prepartum Depression

## A Study of Seventy Unwed Mothers Treated with d-Amphetamine Sulfate and Amobarbital

WILLIAM G. CALDWELL, M.D., and WALTER NOWERS, M.D., Los Angeles

MILD TO MODERATE DEPRESSION is a commonly observed condition in pregnancy. It may be accompanied by anxiety and be evidenced in crying spells, nervousness and irritability, overeating, insomnia, nausea and vomiting. It has been noted that similar symptoms often accompany mild to moderate depression not associated with pregnancy.<sup>9,10</sup>

Several investigators<sup>4,5,7,8</sup> have reported effective use of a preparation combining d-amphetamine sulfate and amobarbital as supportive treatment for depressed, anxious patients. However, the literature does not, to our knowledge, contain any reports of studies done to test the possible value of the preparation as a treatment for symptoms of depression and anxiety during pregnancy. Therefore, the following study was conducted on 70 mild to moderately depressed unwed pregnant women. Because many of the women in this study had pronounced neurotic tendencies, and because all were subject to considerable environmental stress, it was felt that they would provide a more than usually difficult test for the preparation.

### Method

The study was conducted over a six-month period on 70 patients at St. Anne's Maternity Hospital in Los Angeles. St. Anne's, a specialized teaching and rehabilitation institution for unwed mothers, is a charity hospital operated by the Franciscan Sisters of the Sacred Heart.

Before receiving the medication, each patient was given a complete examination. Any patient with symptoms of serious mental disorder was eliminated from the study.

In the 70 patients, depression and anxiety were accompanied by feelings of guilt, rejection, abandonment and censure. Before and during the study the patients received occasional, informal psychotherapy consisting, for the most part, of interviews with the nuns, social workers and other members of the staff. These interviews enabled the patients to discuss their problems and to make plans for the future.

• Seventy unwed pregnant patients in states of mild to moderate depression evidenced by one or more symptoms (tenseness, "nervousness," crying spells, listlessness, fatigue, nausea and vomiting, insomnia and overeating), received informal psychotherapy and a sustained-release capsule combining d-amphetamine sulfate and amobarbital.

Forty-eight patients had complete or substantial relief of symptoms, 15 had partial relief, seven had slight or no relief.

Use of the preparation seemed to make tense, "nervous" patients more communicative and amenable to counseling, but was less effective in listless, easily fatigued patients.

Because of its direct mood-alleviating action and its ability to facilitate psychotherapy, the d-amphetamine sulfate-amobarbital combination proved a very effective treatment for mild and moderate depression accompanying pregnancy.

All the patients received the same routine prenatal care by the resident and teaching attending staff.

Thirty-seven of the 70 patients were less than 21 years old; the youngest (four patients) were 15. The ages of the remaining 33 patients ranged from 21 (five patients) to 35 (four patients). Sixty-one were undergoing their first pregnancy, eight their second and one her fourth. Two months was the earliest stage of gestation at which administration of the preparation was begun. In one patient it was started at the beginning of the eighth month. The average time was the fourth month.

Depending upon the predominant symptoms, each patient was classified into one of two general groups. Those in Group I (55 patients) had psychic symptoms chiefly—tenseness, "nervousness," moodiness, crying spells, apprehension, irritability, listlessness and fatigue. Group II (15 patients) was composed of patients who, in addition to one or more of the Group I symptoms, had either nausea and vomiting (nine patients) or insomnia (five patients) or both nausea and vomiting and insomnia (one patient). Twenty-nine patients (27 in Group I, 2 in Group II) also were unable to control their appetites.

The drug combination was administered by means of a sustained release capsule\* containing hundreds

From St. Anne's Maternity Hospital, Los Angeles.

\*Dexamyl Spansule capsules, Smith, Kline & French Laboratories.

of coated pellets designed to release small doses continuously over eight to ten hours. The capsule is supplied in two strengths. The lower strength (d-amphetamine sulfate 10 mg., amobarbital .06 gm.) was given to 57 patients; the higher strength (d-amphetamine sulfate 15 mg., amobarbital .09 gm.) was given to 13, all of whom had listlessness and easy fatigability. Each patient received one capsule a day, before breakfast.

The patients were examined at the end of the first, third, sixth and eighth week of treatment. Their response was graded on the following criteria: *Excellent* (complete disappearance of symptom), *Good* (substantial relief), *Fair* (partial relief), and *Poor* (slight or no relief). In addition, observations were made on any changes occurring in the patients' sociability, cooperation with the staff and response to counseling.

### Results

For all 70 patients with either psychic or physical symptoms of mild to moderate depression, the results were excellent in 24, good in 24, fair in 15 and poor in seven. For the 55 patients whose symptoms were primarily psychic, the results were excellent in 18, good in 21, fair in 11 and poor in five. Two of the five patients who had insomnia had an excellent result, three a fair result. Of the ten who had nausea and vomiting, six had an excellent result, two a fair result, and two a poor result.

Overeating, a symptom observed in 29 patients, was completely or substantially controlled in 23, only partially controlled in five and in one was not changed. (None of the patients who ate normally before taking the drug preparation had a loss of appetite.)

Five of the 13 patients who received the higher dosage complained of insomnia and three of increased nervousness after taking the preparation. These side effects disappeared when the lower dosage was substituted.

Seventy per cent of the patients who had excellent to good results showed improvement by the end of the first week, the earliest relief occurring within three days. In one patient no improvement was noted until the end of the eighth week.

There were no significant differences between the responses obtained in the younger and the older patients.

The treatment appeared to be particularly beneficial in the tense, "nervous" patients whose feelings were "bottled up." These patients became more relaxed, communicative and cooperative with the counselors. They seemed better able to "ventilate" their feelings and were more amenable to suggestions and advice. The medication seemed less effective in

patients whose depressions were characterized chiefly by listlessness and an inability to "get started."

The following brief case reports illustrate typical results:

**CASE 1. (Excellent result.)** The patient was 20 years of age and in the fifth month of her first pregnancy. She was a factory worker, had been reared in another state, had not gone beyond third grade in school and had come to Los Angeles at the age of 15. Her mentality was decidedly subnormal. Her family circle was intact but was disturbed by frequent and violent quarrels and occasional brief desertions by her father. An older sister's whereabouts were unknown. The putative father was 21 years old, unmarried, unwilling to assume responsibility, but was amenable to contributing small sums of money from time to time. The patient was depressed, complained of frequent nausea and vomiting and recurrent periods of extreme nervousness. She spoke of "disappearing" as her sister had done, and viewed her pregnancy as "punishment."

During the first week of treatment, the nausea was completely relieved and nervousness subsided. At the end of the fourth week of treatment the patient was only mildly depressed, had no nausea or vomiting and only infrequent periods of nervousness. Treatment was discontinued at the end of six weeks. Thereafter, the patient was observed at two-week intervals and there was no recurrence of symptoms.

**CASE 2. (Good result.)** The patient, 28 years of age and in the fourth month of a second pregnancy, was a factory worker who had been divorced the previous year. Her first child, a five-year-old girl, had been living with the patient's parents since the divorce. The patient maintained that her former husband was the father of the unborn child, although he denied this and refused pecuniary assistance. The patient appeared to have had a satisfactory home life before marriage and a somewhat better than average education. She was articulate and communicative and was determined that after the birth of the second child she would make a home for both children. The patient's chief complaints, on admission to the hospital, were moods of despondency and frequent crying spells.

At the end of the second week of treatment she reported that the crying spells were less frequent and that her mood had lifted to some extent. No crying spells were reported after the third week. Episodes of despondency persisted, alternating with periods of definite improvement of mood and outlook. Toward the latter part of pregnancy, the patient's outlook had improved to the extent that she was able to devise a realistic and sensible approach to her immediate problems.

**CASE 3. (Fair result.)** The patient was 15 years of age and in the sixth month of her first pregnancy. At the time of admission she was in the eighth grade in school, had a very poor school record and because

of bad behavior had come to the attention of the juvenile authorities. She came from a home that had been disrupted ten years earlier by the death of her father. Two older brothers and her mother worked at menial jobs. With the onset of pregnancy the putative father, an older man who had been attentive to the patient for over a year, disclaimed any interest in her. Her mother alternated between moods of condemnation and sympathy. The patient complained of "lonesomeness," was lethargic in speech and movement, and was overeating.

At the end of the first week of treatment she had made a start toward control of appetite. Her mood seemed significantly improved. In subsequent weeks, however, her improvement seemed limited to bringing her appetite under satisfactory control. There was no improvement in mood beyond that noted after the first week.

**CASE 4. (Poor result.)** The patient, 21 years of age and in the fourth month of her first pregnancy, was reticent about her background; but it appeared that she had left her home in another city some six months earlier after a protracted quarrel with her mother. She had been living alone since then, working as a waitress. She seemed to have a better-than-average education. Nevertheless, she was not very communicative or sociable and was decidedly listless. Her chief complaints were fatigue and nausea. There was no vomiting.

There was no improvement after a week of treatment. The patient was then given the higher dosage for two weeks, again without improvement. She complained of insomnia and the lower dosage was resumed. Thereupon insomnia disappeared. There was some lessening of fatigue, but this may have been due to some nutritional improvement. At the end of the eighth week, use of the drug preparation was discontinued, the patient having shown no improvement.

#### DISCUSSION

The encouraging results obtained in this study indicate that the d-amphetamine-amobarbital combination is of definite value in the treatment of symptoms of mild to moderate depression in pregnancy. Bearing in mind, however, that these patients received informal, superficial psychotherapy as well as the medication, the results must be evaluated as the product of two concomitant therapies. Perhaps the most reasonable assumption is that the drug preparation prepared or "conditioned" the patient for greater receptivity to informal psychotherapy; although undoubtedly improvement also occurred as a result of the direct effect on mood. Psychotherapy is not usually a "fast acting" treatment, yet 44 patients showed some improvement by the end of the first week of drug therapy.

Of course, superficial psychotherapy, while possibly tiding patients such as these over a very trying period, cannot be expected to solve their underlying emotional problems. Nor, of course, can the medication substitute for proper psychiatric treatment. As Cattel<sup>2</sup> and others<sup>3,6</sup> have pointed out, many unmarried pregnant women have deeply rooted problems which require intensive psychotherapy. It is quite possible that psychotherapy, particularly in the beginning stages, will be more productive if the d-amphetamine-amobarbital combination is given concomitantly.

The particularly desirable results achieved in depressed, tense, "nervous" women suggests that, for some patients, this preparation may be more appropriate than the widely used tranquilizers which create an attitude of indifferent calm. The d-amphetamine-amobarbital combination seems to enhance initiative at the same time that it lessens tension thereby producing a mental attitude which enables the patient to face up to and act upon her problems.

The number of lethargic, listless patients in the study was small; even smaller was the number of patients with nausea and vomiting. However, judging from previous experience,<sup>1</sup> it would seem that for these patients d-amphetamine sulfate alone is more effective than the combination. For "jittery," nervous or excitable patients the d-amphetamine-amobarbital combination would seem to be the more effective.

2228 North Catalina Street, Los Angeles 27 (Caldwell).

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# CASE REPORTS

## Chordoma in Siblings

ROBERT F. FOOTE, M.D.,  
GEORGE ABLIN, M.D., and  
WM. W. HALL, M.D., Bakersfield

IN HUMAN embryological development<sup>6</sup> the evolution of the notochord can be demonstrated. In all higher vertebrates, the notochord arises in essentially the same manner from Hensen's node, which is a thickened mass of rapidly proliferating cells at the anterior end of the primitive streak. In the most primitive vertebrate groups it develops as a fibrocellular cord, directly ventral to the central nervous system and becomes the chief axial support of the body. In the elasmobranchs (shark family), ring-like cartilaginous vertebrae are formed around the notochord and compress it. In the process of evolution, the notochord is further compressed when bony vertebrae replace the cartilaginous vertebrae of the lower forms of life, but, even in the higher mammals, the centra of the vertebrae remain to mark its location and the central portion of the nucleus pulposus of the intervertebral disc is, in its microscopic structure, clearly a notochordal remnant. Its remnants, found in both the centra of the vertebra and in the intervertebral discs, may develop as an invasive malignant tumor (chordoma) and thus become important pathologically.

Neoplasia of the chordal rest tissue is a relatively rare occurrence.<sup>3</sup> The commonest sites are sacrococcygeal and, less frequently, basisphenoid. Very rarely they may occur elsewhere in the spine. Intraspinal and extradural chordomas have been reported<sup>7</sup> and here they produce symptoms of spinal cord tumors. Ordinarily these tumors are extraspinal and have their origin in vertebral rather than disc chordal vestiges.<sup>5</sup> They grow slowly by expansion, ordinarily destroying the bone by an osteolytic process. Occasionally they may incorporate bone. They extend into the retroperitoneal space from their sacrococcygeal origin and into the retropharyngeal area from the basisphenoid nidus. They are more frequently in males than females, occur at any age, but usually in the fifth decade.<sup>1</sup> Their slow growth often occasions symptoms for as long as five years before diagnosis. As the tumor pushes its way into the retroperitoneal space from its sacrococcygeal origin, it often impinges on the bowel or causes bladder

symptoms referable to the bladder. It is usually felt as a firm mass behind the rectum. Chordomas are nonencapsulated and what may appear as encapsulation does not truly limit the tumor. They spread by extension and infiltration of surrounding tissue. In a few instances it may be possible to excise them radically but usually complete removal proves impossible<sup>1</sup> and recurrence is the rule rather than the exception.

In gross appearance, a freshly removed chordoma is often much like a chondroma. It is usually pinkish-gray, firm and elastic, although some have a mucinous appearance and are soft in consistency. There may be areas of hemorrhage and necrosis.

Microscopically the tumor grows in cords and sheets of cells. The pattern closely resembles that of notochordal tissue as found in the nucleus pulposus of the intervertebral disc, and the various appearances of chordomas are parallel to the development of the primitive notochord.<sup>2</sup> Individual tumors and tumor areas vary from small cell structure with small nuclei to very large cells with prominent nuclei and nucleoli. These latter large cells predominate in the usual tumor and have a vacuolated or bubbly cytoplasm which is the origin of the term *physaliferous* (or bubble-bearing) cell. Cell boundaries are indistinct and blend with the pale-staining, homogeneous mucoid matrix. These features may suggest a colloid carcinoma, and chordomas must be distinguished from them.

The characteristics of chordomas are as follows<sup>4</sup>: (a) formation of intra and extracellular mucus, (b) physaliferous cells, (c) lobular arrangement of cells, (d) vacuolization of nuclei, (e) resemblance to nucleus pulposus.

As previously noted, the tumors usually grow slowly; however, where the microscopic pattern presents the criteria of malignancy (such as bizarre nuclear patterns, hyperchromatism and mitoses), there is rapid growth, invasiveness and metastasis (as in Case 1 herein reported).

### REPORTS OF CASES

CASE 1. Beginning about January, 1952, a 52-year-old white housewife noted low backache after falling off a stool onto the floor. This became progressively worse. It was not associated with any change in bowel habits, but the patient did have an

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8-pound decrease in body weight. She was initially treated by her family physician for arthritis.

In 1947, a hysterectomy and appendectomy had been performed for "fibroids." In 1948, she had had a hemorrhoidectomy.

The patient's mother was 70 and her father 77 years of age and both were living and well. A brother, who was then 46 years of age, was apparently well. A 35-year-old daughter was also healthy. There was no history of cancer, tuberculosis, heart disease or diabetes in the family.

Upon pelvic examination it was noted that a large mass displaced the vagina and rectum anteriorly; the uterus was absent. Rectal examination revealed a mass, approximately 8x5x4 cm., between the rectum and sacrococcyx. This was firm and bulged into the posterior rectal wall and seemed to be fixed to surrounding tissues. Barium enema and sigmoidoscopic examination also showed a large pelvic mass displacing the rectum anteriorly and to the right. In February of 1952, the radiologist reported no definite bony involvement of the lumbar or sacral spine except for increased lordosis.

At laparotomy in March, 1952, a reddish purple, vascular encapsulated pelvic mass about 10 cm. in diameter was observed tightly adherent to the sacrum and coccyx. The entire tumor was not completely removed because of extreme vascularity, bleeding and adherence to surrounding structures. The portion removed weighed 310 gm.

The pathologist reported "a rapidly growing and highly malignant chordoma."

In December of 1952, a partial resection of the sacrum and coccyx was done because of recurrent tumor, microscopically confirmed to be chordoma. On May 25, 1954, two years after the first operation, the patient was admitted for terminal care with evidence of a large abdominal and pelvic mass the size of a full term pregnancy. The left gluteal region was infiltrated with tumor. The diaphragm was displaced upward because of the large intra-abdominal mass. In addition, a mass was noted to be protruding into the rectal and vaginal walls. The patient died of uremia on May 26, 1954.

#### Pathologist's Report

The abdomen was protuberant and there were nodular protrusions along the lower abdominal scar. The arms, breasts and other tissue, which were not edematous, were wasted and cachectic.

There was no gross pathological change observed in the brain or chest except for pulmonary edema.

Upon section of the abdominal wall it was noted that the nodules in the lower abdominal region were within the wall and were distributed along the line of a previous surgical incision, apparently implants in the tissue. A large tumor, multinodular and massive, protruded from the pelvis, pushing the bladder forward and partially obstructing the bladder neck against the pelvis. The bladder extended in flattened broad fashion up to a point half way to the umbilicus as nearly as the adhesions present would permit. The intestines were thrust forward by neo-

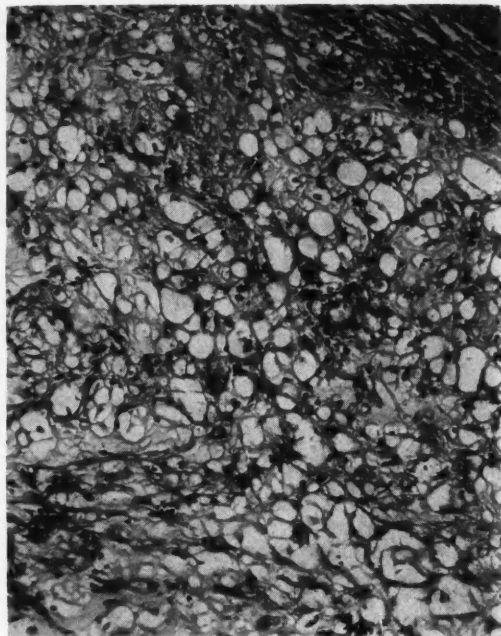


Figure 1.—Low power (X120) view of a field from tumor in Case 1. Note the vacuolation of cytoplasm and nuclei, and criteria of malignancy; that is, bizarre nuclear patterns, hyperchromatism and mitotic cells.

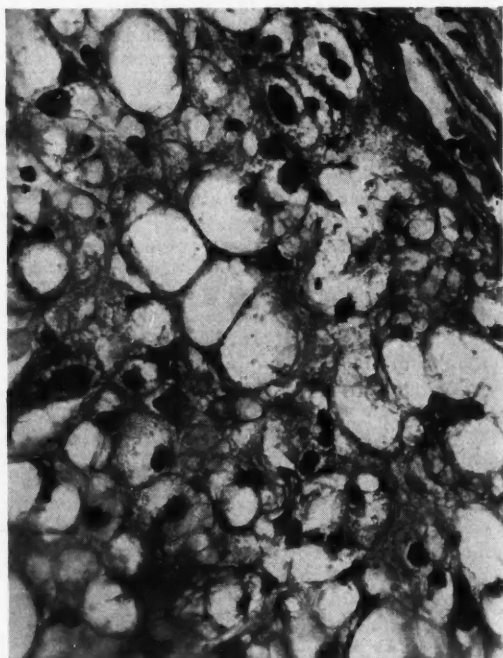


Figure 2.—High power (X500) view of a field from tumor in Case 1. The cellular and nuclear criteria of malignancy are more clearly seen.

plastic growth which extended retroperitoneally along the spinal column up to and beneath the liver. A large mass of neoplastic tissue protruded from the retroperitoneal space, pushing the right kidney upward. This mass was approximately 12 cm. in diameter. On section, the centers of most of these masses of neoplastic tissue were soft and hemorrhagic. Elsewhere, the tumor was not softened and hemorrhagic in appearance, and the cut surface was white or pearly white, occasionally mucoid or cartilaginous in appearance. The liver was filled with metastases of a similar character. Both ureters were obstructed by the outward and upward pressure of the retroperitoneal tumor masses. The ureters on both sides were greatly dilated, being fully 2 cm. in diameter, close to the pelvis of the kidney. Upon removal of the kidneys, pronounced hydronephrosis with renal atrophy was observed on both sides. The adrenal glands and the pancreas were grossly normal, and the gastrointestinal tract, exception for the compression previously described and the partial obstruction of the intestine both large and small, showed no gross abnormality. A tumor nodule about 2 cm. in diameter was observed at the hilus of the spleen but no tumor tissue was found on multiple sections of the splenic tissue.

Summary of gross pathological findings: Chordoma with sacral and pelvic invasion and body destruction, liver metastasis, retroperitoneal extension of chordoma causing partial intestinal obstruction, partial bladder neck obstruction, partial ureteral obstruction with chronic hydronephrosis, and edema—pulmonary, fascial and dependent.

**CASE 2.** A 52-year-old white man, a tiling contractor, brother of the patient in Case 1, said that he had "low back bone pain," which he first noted in December, 1954, as a dull aching pain which he also felt made his bladder empty poorly. These symptoms disappeared completely until July, 1955, when throbbing pain recurred, again localized about an inch or two above the end of the sacrum, starting on the left; and again it was associated with difficulty in urination. The pain kept him from sleeping and it became progressively worse in the course of about a week. Earlier in the year 1955 the patient had noted a significant change in bowel habits—pronounced constipation necessitating daily enemas. There were no other urinary symptoms except for nocturia one time. Libido had been decreased since 1953 but there had been no significant change in sexual activity. It was noted that the pain, which originally began on the left, became more pronounced on the right side and became bilateral.

Upon examination the patient was observed to be well developed and well nourished, and to have no definite physical abnormalities of significance except a firm, smooth, regular, symmetrical 5 to 6 cm. rounded mass firmly attached to the sacrum at its lower end, which was palpated at the end of the examining finger on rectal examination. The mass was tender and nonmovable. The coccyx itself did not seem to be involved and was movable.

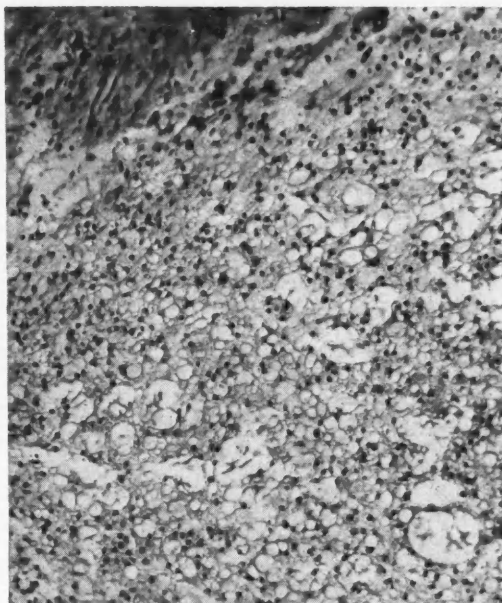


Figure 3.—Low power ( $\times 120$ ) view of a field from tumor in Case 2. Note the smaller cells, greater uniformity of size and shape of nuclei than seen in Figures 1 and 2, and the vacuolation of cytoplasm and ground substance.

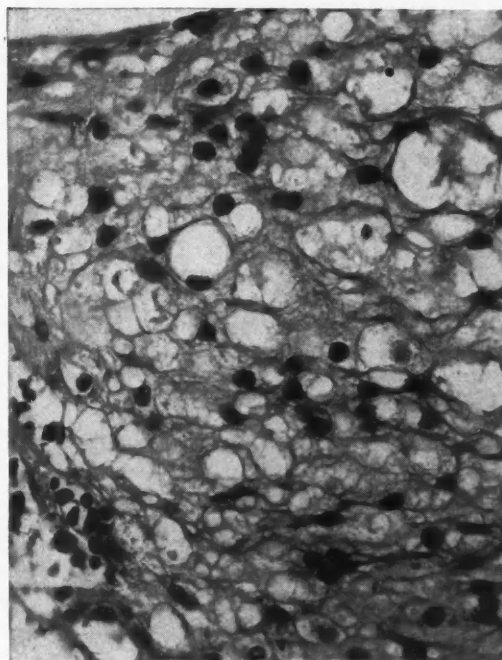


Figure 4.—High power ( $\times 500$ ) view of a field from Figure 3. The nuclear characteristics (small size and uniformity in size and shape) as well as the absence of mitotic cells are more clearly seen.



Upon neurological consultation and careful testing, including the saddle areas, no motor changes or reflex changes were observed. Especially detailed sensory evaluation with light touch, pinpoint and vibratory stimuli did not demonstrate deficits.

It was felt that the mass arose from the sacrum and encroached on the posterior rectal wall without actually involving it. Surgical intervention was advised.

On July 29, 1955, with the patient in a prone position, coccygectomy was performed. A tumor was immediately seen at the lowest end of the remaining sacrum. It was bluish gray, had a thin capsule and seemed to be relatively soft and gelatinous. It lay between the ventral surface of the sacrum, which it had partially eroded, and behind the presacral fascia and probably the periosteum. A portion of the lower end of the sacrum was carefully removed. The tumor was not noted to involve any of the sacral nerves nor did it invade into or through the anterior sacral foramina. It seemed to have eroded the ventral surface of the sacrum, the bone being somewhat excavated in this region and softened around it, and had a rather wide adherent base at the level of the fourth sacral foramina. All portions of the tumor were removed and the ventral surface of the sacrum carefully curetted of all possible gross remnants. The tumor was 5x5x3 cm. The patient recovered readily. When last observed, some two years after the operation, he had stopped working because of intractable pain "at the lower end of my spine." Recurrence of tumor was suspected.

## SUMMARY

Two cases of chordoma, in siblings, a man and a woman of middle age, are reported. This is the first reported occurrence in siblings. In the woman the tumor recurred locally and spread to the liver. In the man the tumor was in the sacrococcygeal area. It was removed and the patient was well for two years, but at the time of this report there were symptoms of recurrence. In a review of the literature no reports or suggestions were found with regard to a hereditary or genetic basis for the occurrence of chordoma.

P. O. Box 1136, Bakersfield (Hall).

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## Meckel's Diverticulum Incarcerated in a Femoral Hernia

ROBERT K. BAUM, M.D., and  
I. Y. OLCHE, M.D., Los Angeles

THE DIAGNOSIS of strangulation of a herniated diverticulum of the intestine that lies within a greater hernia is usually very difficult to make. The classical signs of strangulation— inflammation, fever and pain—are less severe and occur late in the course of the disease process. Often there is no intestinal obstruction, the fecal stream passing readily since only a diverticular process, not the entire bowel, is incarcerated. The only positive findings are a mass and perhaps tenderness if there is compromised bowel in the sac. Fecal fistula at the site of the hernia was noted by Weinstein<sup>7</sup> in 25 per cent of cases he reviewed in a report published in 1938.

## HISTORY

In 1700 Littre<sup>4</sup> published a description of a new form of hernia observed in three cases. The hernial

sac described contained a Meckel's diverticulum. This combination now is called Littre's hernia. The process is to be contrasted to a Richter's hernia in which a portion of the bowel wall is strangulated in a hernial sac but no preformed diverticula is involved.<sup>3</sup> The older literature does not differentiate clearly between the two entities, mixed terminology making it difficult now to determine how many cases there were of each.<sup>2</sup> In 1946, Watson collected reports of 211 cases of Littre's hernia from the literature; 30 of them were of the femoral type.

In 1808 Meckel<sup>5</sup> described the ileal diverticulum which bears his name and postulated it was of congenital origin. Meckel's diverticulum is reported to occur in from 0.2 to 2.0 per cent of persons.<sup>1,6</sup> The incidence noted at postmortem is slightly higher than that observed at laparotomy, since the search usually is less intensive in live subjects. Meckel's diverticuli may vary considerably as to size, length and location, but usually the sac projects from the anti-mesenteric border of the ileum at a point anywhere from 12 to 36 inches proximal to the ileocecal valve. It may be a fibrous tract from the ileum to the umbilicus or it may be patent, and it may or may not have its own mesentery. Meckel's diverticulum may contain ectopic gastric, duodenal or pancreatic tissue

From the Department of Surgery, Cedars of Lebanon Hospital, Los Angeles 29.



which may cause bleeding or ulceration under certain pathologic conditions. Some 10 to 15 per cent of complications of Meckel's diverticulum are owing to location of the lesion in a hernial sac; and when this phenomena does occur, the hernia is most likely inguinal (50 per cent), umbilical (25 to 30 per cent) or ventral (10 per cent), rather than femoral.

Approximately 5 per cent of all hernias are femoral hernias. They are usually reported three to four times more commonly in females than in males. Approximately 34 per cent of all hernias in females occur in the femoral area, compared with 2 per cent in the male, probably because of the greater proportional width of the pelvis, the consequent greater size of the femoral ring and the tendency of pregnancy to stretch and distend abdominal wall. Femoral hernia is liable to strangulate. Of 1,334 consecutive cases of hernial strangulation reported by Weinstein in 1938, about half were femoral. Zimmerman, reporting in 1953 on a collected series of some 4,600 cases, noted that the hernia was femoral in about 25 per cent and the mortality rate was 20 per cent. This relatively high incidence is not surprising, considering the narrowness and unyielding character of the femoral ring. In most cases the lacunar ligament brings about the constriction. The common type of femoral hernia protrudes through a weakness in the transversalis fascia just above its attachment to the ileopectineal line and lies in the pectineus muscle medial to the femoral sheath. There are other less common variations. The differential diagnosis includes enlarged inguinal lymph nodes, hydrocele of the cord or of the canal of Nuck, varix of the greatest saphenous vein and psoas abscess.

In most cases of femoral hernia there are two operative approaches possible. The subinguinal approach, usually over the hernia protrusion, is not the preferred method because of the difficulty of performing an adequate repair, because of tension on the stitches and the impossibility of securing a ligation flush with the peritoneum. Generally the inguinal approach and Cooper's ligament repair is used. The subinguinal procedure causes less operative shock and is far simpler but the recurrence rate is much higher. The high approach is better if there is need of bowel resection and protection against recurrence as in a young person.

Ingle<sup>2</sup> reported that the incidence of Meckel's diverticulum in a femoral hernia is approximately three times greater in women than in men and that the right side is involved three times more often than the left side. In the following case the patient was a man and the hernia was on the left side.

#### REPORT OF A CASE

A white male carpenter, 65 years of age, was admitted to the Cedars of Lebanon Hospital for the first time on March 23, 1957, at noon. He gave a history of having noticed a mass in the left groin since 3 o'clock the previous afternoon. The mass,

which had first appeared after he had lifted some lumber on the job, was not tender at first, but when it did not disappear in several hours the patient notified a physician. A diagnosis of incarcerated femoral hernia was made and the use of sedatives and hot packs was begun to help induce reduction. The mass did not diminish. The patient had not had nausea or vomiting or abdominal pain. He had passed flatus but not feces since the mass had appeared.

The patient was responsive and well hydrated and did not seem to be in acute distress. The temperature was 98.6°F., the pulse rate was 72, and the respiration rate was 14. The blood pressure was 130/70 mm. of mercury. No abnormalities were noted in the heart or lungs. Upon examination of the abdomen, no tenderness, rigidity or palpable masses were noted. Bowel sounds were active. Just below the left inguinal ligament there was a mass 4 cm. in diameter which was tender to the touch but not hot or red. Neither bowel sounds nor a bruit were heard over the mass. It was not reducible. Normal brown stools were present in the rectum.

The urine was a clear amber color with a specific gravity of 1.015. It contained a trace of albumin but no sugar or acetone. There were 2 to 4 leukocytes per high-power field. The hemoglobin content of the blood was 15 gm. per 100 cc. Leukocytes numbered 7,100 per cu. mm. The platelets appeared normal.

The preoperative diagnosis was incarcerated femoral hernia.

With the patient under spinal anesthesia a left inguinal incision was made with reflection of the tissues of the inferior flap distally over the inguinal ligament. The hernial sac was delineated below the inguinal ligament and was freed and entered. When the sac was opened a small amount of dark sanguinous fluid came out. A piece of small bowel, which was gangrenous, was incarcerated in the femoral ring. To enter the peritoneum, an incision was made superior to the original incision through the external oblique, internal oblique and transversalis muscles and fascias. The sac and its contents were delivered through this opening. It was then apparent that the loop of small bowel contained in the sac was a Littre's hernia of compromised Meckel's diverticulum approximately 6 cm. long, of which the distal three quarters was very dark. The Meckel's diverticulum was excised at its base, a closed technique being used. A Cooper's ligament repair was used to close the femoral ring and the defect in the posterior wall of the inguinal canal.

The patient was discharged on the sixth post-operative day.

#### Pathologist's Report

A 6x3x1 cm. thin-walled diverticulum with inflammation, focal metaplasia and adhesions on the serosal surface was received. Diagnosis: Meckel's diverticulum, diverticulitis, ileum.

## SUMMARY

Incarceration or strangulation of a Meckel's diverticulum in a femoral hernia is rare. It occurs predominantly in women and most often on the right side. In the present case the lesion was on the left and the patient a man. The physical findings are relatively few and late in developing. The treatment of choice is resection of the Meckel's diverticulum with or without a section of small bowel as is necessary, and repair of the defect.

4833 Fountain Avenue, Los Angeles 29 (Baum).

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## Acute Intermittent Porphyrria

LEO van der REIS, M.D., and  
MAURICE L. van der REIS, M.D., San Francisco

PORPHYRIA IS A SYNDROME caused by a disturbance in pigment metabolism. Increased formation of porphyrins causes the symptoms. This syndrome and the biochemical characteristics of it have been extensively reviewed.<sup>1,10,11,12,13</sup> Porphyrria needs to be differentiated from porphyrinuria, a condition in which increased porphyrin formation is due to some other pathologic process. Patients with gastrointestinal bleeding may have increased amounts of deuteroporphyrin in the stools.<sup>7,8</sup> In pernicious anemia<sup>2,14,15</sup> and sprue the fecal and urinary porphyrin content may be increased. In liver disease and especially cirrhosis, porphyrinuria may be present before urobilinuria is observed.<sup>4,5</sup> Profound porphyrinuria may be the result of reactions to sulfa preparations,<sup>6</sup> anesthetics,<sup>9</sup> dyes<sup>6</sup> and lead,<sup>3</sup> the latter causing pronounced increase in the coproporphyrin III fraction in the urine.

Watson's classification of porphyrias distinguishes:

1. Porphyrria with sensitivity to light (congenital, infantile, erythropoietic), which is characterized by the urinary excretion of uroporphyrin I and coproporphyrin I. The absence of porphobilinogen is noteworthy.

2. Intermittent acute porphyria, characterized by abdominal and nervous symptoms. Increased urinary excretion of coproporphyrin III, of uroporphyrin-zinc complex, of porphobilinogen and of porphobilin occurs.

3. Mixed form (cutanea tarda, hepatic porphyria). Photosensitization occurs gradually in adults. Cutaneous blisters of traumatic origin, pigmentation, jaundice, hepatic insufficiency or cirrhosis, abdominal pain as well as nervous symptoms characterize the mixed disease. The urine contains increased amounts of porphyrins I and III.

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## REPORT OF A CASE

The patient, a poorly nourished 28-year-old white man of British extraction, complained of severe abdominal pains, nausea, vomiting and constipation. He had had similar attacks off and on for several years, most attacks having subsided spontaneously after 12 to 24 hours. On occasion the use of narcotics had been necessary. The patient said no other members of his family had had similar attacks.

On examination the patient appeared rather stuporous, even though he was writhing in pain. The most striking symptomatology was psychiatric in nature. The patient appeared despondent and expressed views of an hebephrenic character. Occasional athetoid movements of all extremities and tonic as well as clonic contractions of muscle groups in the lower extremities and abdominal wall were noted. The skin was pale and clammy, the blood pressure 135/84 mm. of mercury, the pulse 120 and pounding. Unsustained horizontal nystagmus was present.

The abdomen, in striking contrast to the severity of the patient's complaints, did not appear very tender to palpation. There was no rebound tenderness or rigidity. The bowel sounds were quite active over the upper half of the abdomen and were virtually absent over the lower half. There were multiple areas of hyposensitivity and asensitivity of the skin over the anterior wall of the abdomen and extremities.

X-ray films of the chest showed no abnormalities. In roentgenographic examination of the gastrointestinal tract spasm of some sections of the small intestine and proximal part of the colon was noted. The remainder of the bowel appeared distended. Results of examination of the blood were within normal limits. Serum calcium and serum phosphorus content were within normal range. The urine, which was clear and rather brownish, contained large amounts of uroporphyrin and coproporphyrin as well as porphobilinogen.

The patient was given 100 mg. of promazine hy-

drochloride (Sparine®) intravenously, and the symptoms rapidly abated. Over the next six hours two intramuscular injections of 50 mg. each of the same drug were administered. The patient remained somnolent for approximately 12 hours but was otherwise asymptomatic four hours after treatment was started.

A maintenance dose of promazine hydrochloride, 25 mg. four times a day was prescribed. At last report the patient had remained asymptomatic for a longer period than after any preceding attack and there were no undesirable side effects of the drug.

Erythropoietic porphyria usually occurs in children, more often males, who may have extensive bullous and vesicular lesions of the skin. Hypertrichosis is common. Dark pigmentation of the skin, splenomegaly and hemolytic anemia often are concomitants. Coproporphyrin and uroporphyrin are present in the urine, which has the color quality of port wine. Fluorescence of the normoblasts in the bone marrow can be observed.

In acute intermittent porphyria, which is more common in females, three groups of symptoms occur: Psychiatric, neurologic and gastrointestinal. The psychiatric symptoms may vary a great deal. Hysteria and paranoia as well as schizophrenia have been observed. Apathetic, unpleasant and complaining behavior and a tendency to speak in a whining voice are typical of patients with porphyria. The neurologic manifestations are many and varied; they may be clinically undistinguishable from those of polyneuritis, amyotrophic lateral sclerosis, poliomyelitis and ascending paralysis with respiratory paralysis. Sensory abnormalities also may occur. Early atrophy of the musculature is noteworthy in cases in which paralysis develops.

The abdominal symptoms may be either of sudden or insidious onset. When first examined the patient may be rolling in bed complaining of a severe, colicky abdominal pain, nausea and vomiting. Abdominal distention, intestinal spasm and constipation may be noted. The symptoms may mimic those of a variety of causes of "acute abdomen." However, there is a striking disparity between the severe subjective pain and the relative insensitivity of the abdomen to palpation. In women, in whom attacks often occur a few days before or after menstruation, the clinical symptoms may mimic those of extrauterine pregnancy.

In addition renal, cardiac and hepatic abnormalities may occur. Oliguria (often preceding the attack), albuminuria and acute renal failure have been observed. Tachycardia, extrasystoles and substernal pain are common. Liver function tests may show abnormal thymol turbidity, cephalin flocculation and increased bromsulphthalein retention.

The urine in this form of the disease is usually dark brown due to the presence of porphobilinogen. The color may be accentuated by acidification or heating. In contrast to the erythropoietic type, no fluorescence of the normoblasts can be observed.

The mixed form differs from the acute intermittent type in that cutaneous manifestations, which are

accentuated by direct sunlight, are present. The urinary findings are different from those in the acute variety, in that a mixture of porphyrins I and III are present, while only porphyrin III is found in the acute form.

Severe complications such as myocardial infarction, acute pancreatitis, severe anemia and persistent paralysis due to muscle atrophy may occur.

Protection against sunlight and ultraviolet light is of extreme importance in dealing with the erythropoietic and photosensitive forms of the disease. Administration of barbiturates, sulfa preparations and preparations containing heavy metals is contraindicated. Splenectomy is often of some benefit in the congenital type, although complete remission is rarely obtained.

Vitamin B preparations as well as adrenal steroids have been used, but the effects of these drugs have not generally been favorable.

Recently good results without any undesirable effects have been reported<sup>10,11</sup> from the use of chlorpromazine and similar substances.

#### SUMMARY

A case is presented of a 28-year-old "psychotic" male with severe abdominal pains. A diagnosis of acute intermittent porphyria was made. The patient responded favorably to treatment with promazine hydrochloride.

2515 Ocean Avenue, San Francisco 27.

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# California MEDICINE

For information on preparation of manuscript, see advertising page 2

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## EDITORIAL

### Man vs. Automobile

THE AUTOMOBILE—man's application of power to the wheel—has attained considerable stature in the past half century.

From the old one-lunger which frightened horses and called for the ingenuity of man to keep it operating 50 years ago, the automobile has grown into a twentieth century monster that demands more parking space, more room on the highway and more sense behind the wheel.

Today we see more and more of the competitive products of Detroit, complete with multiple headlights, tail fins that vie for ostentation and utility and motors that are designed to provide far more horsepower than was dreamed of by the owners of the "horseless carriages" at the turn of the century.

Competition has not been restricted to the Michigan manufacturers in the development of the automobile. More exactly, the competition has been between man and the automobile.

Each year the engineers and designers have strived to give the American buyer something bigger, something more elegant, something more powerful. The result: Larger automobiles, greater passenger capacity, more powerful engines, bigger braking surfaces—and more serious accidents.

Along with these advances in automotive engineering has come an increased call on the highway engineers, the police forces and the public (other drivers) to respect the instruments which our automotive engineers have placed in our hands.

The power of these modern marvels is shown in the 38,700 Americans killed in 1957 in automobile accidents. While theorists rant about the killing power of nuclear bombs, right in our own backyard we kill off more people than a series of H-bombs might claim. We also maim people—2,525,000 of them last year.

We ran down, or ran over, or otherwise killed 7,500 pedestrians in 1957. We killed another 1,330 in collisions between automobiles and railroad trains. Jaywalkers accounted for 2,600 deaths last year.

In case one might want to dismiss some of these truly vital statistics as resulting from obsolete equipment, consider for a moment that more than 95 per cent of the vehicles responsible for these figures were in apparently good operating condition at the time of the crash.

Why have these figures been compiled? Who cares?

The answer to these questions lies in several bodies of public opinion, such as the National Safety Council. Solid citizens throughout the country have seen fit to contribute their time, energy and funds to study these causes of death and injury and to try to work out some better solution.

In addition, the automobile makers are intensely interested. They are acutely aware of their own obligation to make their products something which provides transportation as a major endeavor and something which will minimize the danger to life and limb which uncontrolled horsepower would provide.

These auto makers, especially the major producers of automobiles, have for several years engaged the services of Cornell University in studying the causes and consequences of automobile accidents. From these studies the producers hope to learn how to make their products safer as well as more efficient and more comfortable.

Cornell has established the Cornell University Automotive Crash Injury Research as its vehicle to produce the facts and figures needed by Detroit to cut down the traffic toll. Starting from base studies which were made for federal authorities on airplane crashes, the Cornell researchers have developed methods of testing and analyzing automobile crashes.



Their findings have already had their effect on the designing of automobiles; in the years to come they will doubtless be seen in further developments or refinements in automobile construction and design.

California is one of the current testing areas for the Cornell studies. Various county areas have been selected as testing grounds; nine counties have already been studied and three more went into the overall research at the start of this month.

A single form developed by Cornell researchers provides space for the hospital, the physician and the California Highway Patrol to fill in needed data to describe the circumstances of any accident. The hospital provides information on the time of arrival of accident victims, the tentative diagnosis and the length and nature of treatment provided. The physician gives a diagnosis and outlines the areas and the extent of injuries. The Highway Patrol fills in details on the year, make and model of automobile, the circumstances of the accident, condition of the highway, density of traffic and other factors.

When these details on any given victim of any given accident are compiled and processed through electronic equipment, they contribute to the general knowledge of what kind of injuries may be expected from a given kind of equipment in a given kind of accident on a given kind of highway.

From the preliminary results of these studies we have already seen the development of seat belts, padded instrument panels, safety latches on door locks and depressed hubs on steering-wheel. Each of these developments has proved its value in decreasing the number or the severity of injuries in automobile crashes.

California is now entering into the second year of this study, in company with 15 other states. The series now under way, for a six-month period, will cover Mendocino and Sonoma Counties and the western portion of Riverside County.

Physicians in all areas of this research have been requested to provide the meager information asked by the Cornell researchers. When the final statistics are in, Cornell hopes to have detailed information on some 50,000 cases, taken from a number of states under a wide variety of highway and traffic patterns. Out of this mass of data we may well see motor car developments which will make all of us safer, whether we occupy the driver's seat or another position in an automobile or get sideswiped as pedestrians or innocent bystanders.

The physicians of California have done their part in these vital studies for the past two years. With one more year to go for the completion of basic statistics, it is hoped that all physicians will continue to add their contribution to these records, as a means of making this a safer country for us all.

## Introspection

IT BEHOOVES almost any enterprise now and then to turn introspectively to an examination of its purposes and of how well it serves them.

The purpose of CALIFORNIA MEDICINE is to be the kind of publication its subscribers would like to have it be—the wishes of the subscribers, in general, to point the direction. To learn how close it comes to meeting the wishes of its underwriters and what adjustments in policy or detail might be made, CALIFORNIA MEDICINE is sending a questionnaire to an unselected 10 per cent of the members of the California Medical Association in each of the component county societies.

The questionnaire was developed with the advice of an expert in statistical measurement of opinion and has been approved by the Executive Committee of the Editorial Board and the Council.

The answers, if returned by enough of the members to give an adequate sample, will let the editorial and business staff of your journal know what pleases the subscribers and what does not, whether to use more or less of the kinds of material that are now used, whether to use a different kind of material than that now used, and whether there is enough demand to warrant the extra expense of making your journal dressier.

Those who receive the questionnaire can help themselves and all other members of the C.M.A. by filling it out—which will take only a few minutes—and returning it promptly. Look for it in the mail about now. If you do not receive one, but have something to say that would help make CALIFORNIA MEDICINE a better journal, a separate communication from you would be most welcome. Just address CALIFORNIA MEDICINE Survey, 450 Sutter Street, Room 2000, San Francisco 8.

## Editorial Comment...

### Research by Practicing Physicians

MANY PHYSICIANS associate Medical Research with expensive and intricate equipment installed in a modernistic building like those pictured in the magazines and brochures of the big drug manufacturers.

Those of us engaged in a busy practice generally feel that we ought to leave it to full-time researchers to do the research and that there is little that we can contribute to the advance of medicine. But this is far from the truth. Many discoveries came and cer-

tainly others will come through the alertness, knowledge and intuition of physicians in active practice, for clinical research starts with recognition of the pressing problems arising in the physician's examining room. If more physicians in general practice could be convinced that they do have the opportunity and knowledge and ability to do research work of a kind that can be done without too much expense in time or equipment, we would know more about many of the so-called minor illnesses and probably be one step closer to solving the "big problems" of cancer, rheumatism and mental illnesses.

The physician most successful in this field will have certain characteristics. He will not only have superior knowledge in one or several fields of medicine but also originality, flexibility of mind and a sensitivity to the essentials of a problem. He has to have the courage not to accept anything as true unless it has been proven so. And then there is the undefined factor that we may call hunch or inspiration or intuitiveness which even men like Edison and Einstein acknowledged but were unable to explain.

But even a man who has none of those qualifications in large measure can do valuable research work if he will. The first step is to keep his mind alert to the problems in his practice. Soon he will find a subject that arouses his special interest. The next step would be to study the pertinent literature and keep exact and complete records on all patients concerned. Since statistics are usually used in making scientific studies and in reporting them, the general principles—and the shortcomings—of statistical methods should be familiar to even casual investigators.

One kind of research that is being done with increasing frequency by practicing physicians is the testing of new medicines that are about to be marketed by the large drug companies. After the manufacturer has made exhaustive preliminary studies and tests, the medicine in question may be given to carefully selected patients under close supervision and control. If the new drug proves to be of value, several experts in the field continue with the investigation. Finally, if it has proven to be of value for certain diseases and not to have serious side effects, practicing physicians are selected to do the final evaluation, the drug company supplying the drug, literature and record-keeping forms. Similiar studies can be done of drugs that have been in use for a long time if the researcher has reason to believe that they might be useful in another illness than the one for which they were previously used. The drug companies are very much interested in such work and will give the fullest cooperation to serious investigators.

Every physician is actually doing research work by trying various recommended medications for the same illness and finally selecting the one that seems the most effective. If exact records are kept and prove that one specific treatment is much more effective than others, it might be valuable to publish such a finding.

Now, a word of caution. In the field of therapeutics, ethical consideration puts restrictions on research. Our medical associations and our attorneys caution us not to use any other therapy than "one which is accepted as good practice by the physicians of the community." This sounds discouraging to a man in medical research and it must be admitted that a literal interpretation of this rule may hamper medical progress and discourage individuality and originality. We should, however, keep in mind that the reason for these rules and regulations is to protect the patient from harm and to assure a regimen that should never be inferior to one that is generally accepted. But if a physician knew of a chemical that appeared to be promising—for example, in the palliation of metastatic cancer—certainly it could be tried after the usual methods had failed. Steps to protect the investigator legally in such an event are consultation, detailed explanation to the patient and the relatives, a written consent and, in doubtful cases, a discussion of the particular case with an attorney. Generally there will be little danger of any legal involvement if the researcher has been the family physician of the patient for many years and has his full confidence. In no circumstances, of course, should a drug of proven value be withheld from the seriously ill in order to try an experimental medication.

Other forms of research may include new surgical techniques, designing of new instruments, new or simplified laboratory methods and other diagnostic procedures.

Often the most difficult part, which starts when the research has ended, is the presentation of the subject in a concise and well-written paper. And it must be accepted that many an excellent paper is never published because of editorial consideration. Moreover, numerous research projects by individuals and by groups end in failure and disappointment. But even these should be considered as valuable, for research in itself increases intellectual discipline, sharpens the sense of critical observation and promotes the ability to associate facts and to draw proper conclusions. If this state of mind becomes part of the personality, it leads to profounder insight of others and ourselves and thus to a fuller life.

KURT SCHNITZER, M.D.

615 S. Main Street  
Santa Ana

# California MEDICAL ASSOCIATION

## NOTICES & REPORTS

### Council Meeting Minutes

#### 431st Meeting

*Tentative Draft: Minutes of the 431st Meeting of the Council, San Francisco, St. Francis Hotel, February 8, 1958.*

The meeting was called to order by Chairman Lum in the Georgian Room of the St. Francis Hotel, San Francisco, on Saturday, February 8, 1958, at 9:30 a.m.

#### Roll Call:

Present were President MacDonald, President-Elect West, Speaker Doyle, Vice-Speaker O'Neill, Secretary Daniels, Editor Wilbur and Councilors MacLaggan, Wheeler, Wadsworth, Harrington, McPharlin, Sherman, Lum, Bostick, Teall, Reynolds, Varden, Heron and Hoyt. Absent for cause, Councilors Foster, Pearman and Kirchner.

Present by invitation were Messrs. Hunton, Thomas, Clancy, and Gillette of C.M.A. staff; Messrs. Hassard and Huber of legal counsel; Messrs. Read and Salisbury of the Public Health League of California; county society executive officers Scheuber of Alameda-Contra Costa, Bannister of Orange, Marvin of Riverside, Foster of Sacramento, Donmyer of San Bernardino, Nute of San Diego, Neick of San Francisco, Thompson and Pearce of San Joaquin, Wood of San Mateo, Colvin of Santa Clara; Messrs. Paolini and Wahlberg and Doctors Larsen and Gardenier of California Physicians' Service; Fred O. Field, legal counsel of the Los Angeles County Medical Association; Doctor Marshall Porter, State Director of Mental Hygiene; Doctor Ferrall H. Moore, president of the San Mateo County Medical Society; and Doctors John Rumsey, Malcolm Watts, Dan O. Kilroy, Robert Combs and Malcolm Merrill, state director of Public Health.

A quorum present and acting.

#### 1. Minutes for Approval:

Minutes of the 430th meeting of the Council, held January 11 and 12, 1957, in Los Angeles, were pre-

sented and, after several amendments, on motion duly made and seconded, were approved.

#### 2. Membership:

(a) A report of membership as of February 6, 1958, was presented and ordered filed.

(b) On motion duly made and seconded in each instance, nine members were voted Retired Membership. These were: Lloyd E. Lacey, Alameda-Contra Costa County; Harold N. Brodersen, Fred L. Glascock, William O. Leach, David M. Olkon, Arthur P. Stevenson, John G. Turley, Los Angeles County; Howard H. Dignan, Edward A. Schaper, San Francisco County.

(c) On motion duly made and seconded in each instance, nine applicants were elected to Associate Membership. These were: Benjamin Lieberman, Hamlet C. Pulley, Maurice Schiff, Alameda-Contra Costa County; Louis Lesko, Jr., Olive Lundgren, Los Angeles County; E. E. Simpson, Sacramento County; Raymond H. Brown, Richard M. Gross, Shirley G. Hall, San Francisco County.

(d) On motion duly made and seconded, ten members were granted a reduction in dues because of illness or postgraduate study.

#### 3. Financial:

A report of bank balances as of February 6, 1958, was presented and ordered filed.

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FRANK A. MacDONALD, M.D. . . . .	President
FRANCIS E. WEST, M.D. . . . .	President-Elect
JAMES C. DOYLE, M.D. . . . .	Speaker
J. NORMAN O'NEILL, M.D. . . . .	Vice-Speaker
DONALD D. LUM, M.D. . . . .	Council Chairman
ALBERT C. DANIELS, M.D. . . . .	Secretary-Treasurer
IVAN C. HERON, M.D. . . . .	Chairman, Executive Committee
DWIGHT L. WILBUR, M.D. . . . .	Editor
JOHN HUNTON . . . . .	Executive Secretary
General Office, 450 Sutter Street, San Francisco 8	

ED CLANCY . . . . .	Director of Public Relations
Southern California Office:	
2975 Wilshire Boulevard, Los Angeles 5 • DUnkirk 5-2341	

#### 4. *Commission on Public Health and Public Agencies:*

Doctor Warren Bostick, chairman of the Commission on Public Health and Public Agencies, presented a request from the State Department of Public Health for cooperation in a follow-up study of cancer cases to involve the assistance of individual physicians. On motion duly made and seconded, it was voted to approve this study.

Doctor Bostick also presented a request for sponsorship by the Association, along with other sponsors, of a food conference scheduled by agricultural and allied groups. On motion duly made and seconded, it was voted to participate and cooperate but not to sponsor the program.

Report was also made on studies under way on antibiotic-resistant organisms and on naline as an agent for the determination of drug addiction.

Discussion was held on practices involving the Crippled Children's Program and others where a third party is involved. On motion duly made and seconded, it was voted to request the Commission on Medical Services to study this entire field and report back to the Council.

Doctor Bostick also reported that studies were under way in the fields of rehabilitation and policies relative to various health services, reports on which will be made later.

#### 5. *Medical Care for Military Dependents:*

Doctor John Rumsey, chairman of the committee authorized to discuss the "Medicare" program with Army officials, reported on meetings just concluded in Washington and presented the tentative form of contract to cover this program for 1958.

After considerable discussion, it was regularly moved, seconded and voted, that the Council approve the 1958 renewal of the "Medicare" contract; that with the advice of the Commission on Medical Services the Council review and establish its basic policy regarding fee schedule negotiations and contractual relationships involving medical service; that such basic policy be submitted to the following meeting of the House of Delegates for its consideration and approval; and that thereafter all future contracts should conform to the established policy.

#### 6. *C.M.A. Structural Survey:*

Councilor Sherman, chairman of a committee established to review the report and recommendations of the study of the Association made by Robert Heller & Associates, reported on several sections of this study; actions taken in conformity with Doctor Sherman's report included:

1. Annual meetings of county society officers are to be continued as in the past.

2. Minutes or notes on discussions held by the Medical Executives Conference are to be prepared and distributed to members of the Council and to secretaries of county medical societies.

3. The Council shall be the sole policy-making body of the Association during adjournment of the House of Delegates.

4. The Executive Committee shall be abolished.

5. An Advisory Committee for Emergency Action shall be established, to consist of the President, President-Elect, Council Chairman and Speaker, to rule on matters requiring prompt action between meetings of the Council.

6. The Auditing Committee is to continue its present functions, except for modification of present requirements for inspection of all financial items by two of its members, and the name is to be changed to Finance Committee.

7. The position of Director General is to be established, the office to include various duties as outlined by the Sherman committee and the position to be filled when and as an acceptable candidate is located.

8. County societies shall be asked to forward candidates for appointment to the commissions and committees to the chairman of the committee on nominations, and consideration shall be given to rearranging subcommittees under the various commissions.

9. The Council shall recommend to Audio-Digest Foundation the appointment of a general manager when feasible and the reduction of the Board of Trustees to about six or seven members.

10. The Operating Committee of the Physicians' Benevolence Fund, Inc., shall continue its present operations.

11. The Assistant to the Editor of CALIFORNIA MEDICINE shall be made an ex-officio member of the Committee on History and Obituaries.

12. The title of Secretary-Treasurer shall be changed to Secretary and the duties of the Treasurer transferred to the chief administrative officer.

13. Two signatures shall be required on Association checks, as at present; the title Executive Secretary to remain unchanged.

14. A Division of Office Services shall be established in the central office to handle internal office affairs.

15. Changes shall be effected in the dues structure, to provide the payment of one-half the annual dues for Associate Members and for those in the first three years of medical practice and complete remission of dues for members above the age of seventy years or those whose practice ceased temporarily because of illness or absence for postgraduate training.



16. Uniform charts of accounts shall be maintained and monthly summary reports furnished to commissions and committees requesting them.

17. Questions concerning format, content and administration of CALIFORNIA MEDICINE shall be referred to the Executive Committee of the Editorial Board of the journal for consideration and later report to the Council.

18. The Council shall establish policies relative to public relations and transfer such policies to a strong Committee on Public Relations which shall direct and supervise this activity. The Director of Public Relations shall continue to be located in Los Angeles.

19. As office space becomes available, the Physicians' Placement Service shall be expanded under a full-time employee.

The above actions were all taken on motions duly made and seconded. It was also duly moved, seconded and voted that appropriate By-Law amendments be prepared for approval by the Council and submittal to the 1958 House of Delegates.

#### 7. *Commission on Public Policy:*

Doctor Dan O. Kilroy, chairman of the Commission on Public Policy, and Doctor Malcolm Merrill, State Director of Public Health, discussed the need of additional funds in the 1959 State budget to provide for new fees approved for the Crippled Children's Program last year, and Doctor Kilroy asked authority for Doctor Frank J. Cox to appear before a State Senate committee on this subject. On motion duly made and seconded, it was voted to authorize Doctor Cox to make this appearance in support of the increased budget item.

Doctor Kilroy and Doctor Marshall Porter, State Director of Mental Hygiene, also discussed the question of seven state-operated mental health clinics which both speakers proposed be taken over by community mental health clinics under the terms of new legislation; it has been proposed that a period of 18 months, ending June 30, 1959, be allowed for counties to effect this takeover and, on motion duly made and seconded, it was voted to approve this time allowance.

Doctor Kilroy reported that a letter relative to the Forand Bill, now before the U. S. Congress, had been mailed to all members of the Association.

Doctor Kilroy also reported on hearings by interim committees on the subjects of cancer quackery and diploma mills. In regard to the latter subject, it was regularly moved, seconded and voted to request the Governor of California to include this subject in an official call for a special session of the State Legislature in 1958.

#### 8. *Public Welfare Assistance Law:*

Councilor Harrington, chairman of the liaison committee with the State Department of Public Welfare, reported on a meeting with that department, in which certain fee changes had been agreed upon. He also reported that San Diego, Kern, Sacramento and the San Joaquin counties had been selected as areas for a pilot study in the handling of welfare cases without prior authorization from welfare officials. If this requirement can be removed, such action would later be taken in all counties. A communication from the Los Angeles County Medical Association, in which that organization requested to be included in this pilot study, was presented; the association stated its intention to advise its members to withdraw from this program if this request were not met.

Doctor Harrington also reported that the University of California Hospitals in San Francisco were experimenting with welfare cases on a per diem basis, while the Stanford Hospitals were continuing on an itemized charge basis as a control.

Mr. Hassard reported that changes in federal laws would be required to achieve a uniformity in payment for services provided under the welfare program which had been sought earlier.

It was agreed that the Council should study a proposal made by the State Department of Social Welfare for a study of the amount of care given in county hospitals for the indigent and the medically indigent.

On motion duly made and seconded, it was voted to approve the request of a component county society for use of the Association's addressograph list for a mailing to all members on the welfare law.

#### 9. *Amendment to C.M.A. By-Laws:*

Mr. Hunton reported that since the date for Annual Sessions has been advanced two months, it would be advisable to amend the By-Laws to provide that the official count of membership to determine representation in the House of Delegates likewise be advanced two months, to September first of the year preceding the meeting of the House of Delegates. On motion duly made and seconded, it was voted to approve such an amendment for presentation to the House of Delegates.

#### 10. *Liaison with State Bar of California:*

Doctor West reported that the operating rules for governing panels of expert witnesses to be made available to attorneys in medical malpractice cases had been submitted both to the Council and the Board of Governors of the State Bar of California. On motion duly made and seconded, these rules were voted approval.

#### 11. *California Physicians' Service:*

Doctor West suggested that the Council recommend to the Board of Trustees of California Physicians' Service that a committee be named to study the medical needs of the aged. On motion duly made and seconded, this proposal was approved.

#### 12. *State Board of Nurse Examiners:*

A request for appointment of members to confer with the State Board of Nurse Examiners on the evaluation of shortened training courses for nurses was presented by Doctor MacDonald. On motion duly made and seconded, it was voted to nominate Doctors William Kaiser of Oakland and J. Philip Sampson of Santa Monica for appointment to this committee.

#### 13. *Time and Place of Next Meeting:*

The chairman, the Council concurring, announced that the next meeting of the Council would be held in Los Angeles on Sunday, March 9, 1958, following the March 8 meeting of county society officers.

#### *Adjournment:*

There being no further business to come before it, the meeting was adjourned at 5:40 p.m.

DONALD D. LUM, M.D., *Chairman*  
ALBERT C. DANIELS, M.D., *Secretary*

### **432nd Meeting**

*Tentative Draft: Minutes of the 432nd Meeting of the Council, Los Angeles, Ambassador Hotel, March 9, 1958.*

The meeting was called to order by Vice-Chairman Heron on Sunday, March 9, 1958, in the Colonial Room of the Ambassador Hotel, Los Angeles, at 9:30 a.m.

#### *Roll Call:*

Present were President MacDonald, President-Elect West, Speaker Doyle, Vice-Speaker O'Neill, Secretary Daniels and Councilors MacLaggan, Wheeler, Foster, Wadsworth, Pearman, Harrington, McPharlin, Sherman, Bostick, Teall, Kirchner, Reynolds, Varden, Heron, Hoyt and Rosenow. Absent for cause, Councilor Lum and Editor Wilbur.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Clancy, Gillette and Whelan of C.M.A. staff; Messrs. Hassard and Huber of legal counsel; Messrs. Read and Salisbury of the Public Health League of California; county society representatives Scheuber, Geisert, Pettis, Field, Bannister, Marvin, Donmyer, Nute, Neick, Thompson, Donovan and Clark (San Mateo County); Doctors Larsen and Gardenier and Messrs. Paolini, Lyon, Wahlberg

and others of California Physicians' Service; Richard Blum, Ph.D.; Doctor Malcolm Merrill, State Director of Public Health; Doctor Marshall Porter, State Director of Mental Hygiene; and Doctors A. A. Morrison, R. S. Kneeshaw, H. G. MacLean, Thomas Rossitto, Robert Combs, Carl M. Hadley, Roberta Fenlon, Hartzell Ray and Dan O. Kilroy.

#### 1. *Minutes for Approval:*

On motion duly made and seconded, minutes of the 431st meeting of the Council, held February 8, 1958, were approved.

#### 2. *Membership:*

(a) A report of membership as of March 6, 1958, was presented and ordered filed.

(b) On motion duly made and seconded in each instance, six applicants were granted Retired Membership. These were: William S. Kiskadden, Thomas Reynold Martin, George W. Moore, Gerald F. Smith, Ralph J. Thompson, Los Angeles County, and Horace F. Pierce, Santa Barbara County.

(c) On motion duly made and seconded in each instance, 14 applicants were voted Associate Membership. These were: R. L. Christensen, Alameda-Contra Costa County; Harry Howard, Marin County; Clem Cravens, Ramona L. Todd, Eunice S. G. Waters, Napa County; Arnold R. Beisser, S. L. Broussalian, Robert M. Colbert, Charles S. Lobel, Los Angeles County; Leon J. Epstein, Sacramento County; George A. Breon, San Diego County; Wallace V. Epstein, Arthur W. Pryde, San Francisco County, and Thomas J. Gray, Santa Clara County.

(d) On motion duly made and seconded, reductions of dues were voted for 31 members because of prolonged illness or postgraduate studies.

#### 3. *Financial:*

(a) A report of bank balances and associated items was presented and ordered filed.

(b) A report of income and expenditures for February and for the eight months ended February 28, 1958, was presented and ordered filed.

#### 4. *Commission on Medical Services:*

(a) Doctor H. Gordon MacLean, chairman of the Commission on Medical Services, reported that the executive committee of the commission had met with trustees of some labor health and welfare funds for a discussion of problems in this field. No major agreements were reached but further meetings may be scheduled. On motion duly made and seconded, this report was accepted.

(b) Doctor Frank J. Cox, chairman of the Committee on Fees, reported that Army representatives

now require that certain periods of aftercare be provided under the surgical fee in "Medicare" cases and suggested that, to evaluate this requirement, the committee which drew up the Relative Value Studies be reactivated. On motion duly made and seconded, this suggestion was approved for this particular purpose and for determining a suitable method of providing for payment of a fee to two or more physicians who might be engaged in the same case.

(c) On the recommendation of the commission, and on motion duly made and seconded, the Council voted to reaffirm its earlier decision that, in vocational rehabilitation cases, opposition be continued against different fees for the same service.

#### 5. *State Department of Public Health:*

Doctor Malcolm Merrill, State Director of Public Health, reported that representatives of his department, of hospitals and of medicine have met to consider the problem of staphylococcus infections in hospitals and that regional meetings on this subject are being planned.

Doctor Merrill also reported on problems presented by the Highway Patrol in interpreting new dangerous drugs regulations applicable to drivers and of the Motor Vehicle Department in the medical aspects of driver licensing.

#### 6. *State Department of Mental Hygiene:*

Doctor Marshall Porter, State Director of Mental Hygiene, reported that hearings had been held by a State Senate committee on the continuation of seven mental hygiene clinics now operated by the state which his department believes should be converted to community control. At present, funds for continued state operation are provided in the state budget now under consideration.

#### 7. *A.M.A. Meeting:*

Doctor Sherman reported that the cost of cooperating with the American Medical Association in staging its 1958 meeting in San Francisco would total about \$12,000. On motion duly made and seconded, the Council reaffirmed its earlier decision to offer this cooperation and, by a three-fourths vote, approved the appropriation of this amount.

#### 8. *Committee on Scientific Work:*

Doctor Daniels, as chairman of the Committee on Scientific Work, presented a list of guests and nonmembers scheduled to participate in the 1958 Annual Session scientific program. On motion duly made and seconded, this list was approved.

#### 9. *Woman's Auxiliary:*

On motion duly made and seconded, it was voted to increase the annual appropriation to the Woman's Auxiliary by \$250 to assist in its annual meeting.

#### 10. *Medical Review and Advisory Board:*

Doctor Carl Hadley, chairman of the Medical Review and Advisory Board, reported that a pre-test distribution of a publication on the causes of medical malpractice suits had shown a great interest by those receiving it. On motion duly made and seconded, it was voted to distribute this publication to the entire membership.

Doctor Hadley also reported that statistical studies were continuing and that further report would be made on them.

Richard Blum, Ph.D., psychological consultant, reported that studies were continuing on hospitals and jurors and that additional work was going on in the field of testing patient cooperation. Dr. Blum also stated that postgraduate courses in malpractice prevention had been set up, that he was working with medical schools in developing undergraduate courses in this field, and that conferences were being held with some county medical societies on the malpractice portions of their courses of indoctrination of new members.

#### 11. *Request for Additional Council Reports:*

A communication from a county medical society, requesting that the Council give a detailed report on its action on resolutions referred to it by the House of Delegates, was read. On motion duly made and seconded, it was voted to present a supplementary report to the House of Delegates on this subject.

#### 12. *Amendments to By-Laws:*

Amendments to the By-Laws required to effectuate Council decisions on operations and structure of the Association were reviewed. On motion duly made and seconded, it was voted to direct the chairman to introduce these proposed amendments into the 1958 House of Delegates.

#### 13. *Committee on Legislation:*

Legal counsel Hassard presented a request from the California Hospital Association for a reevaluation of the requirements for foreign graduates to gain approval to serve as interns and residents in California hospitals, especially in view of the opening of offices by a new organization, the Educational Council for Foreign Medical Graduates, which proposes to screen such graduates as to their training and acceptability for hospital appointments in this country. On motion duly made and seconded, it was voted to ascertain the views of the State Board of Medical Examiners on this subject and to secure additional information on the Educational Council for Foreign Medical Graduates.

Mr. Hassard and Doctor Dan O. Kilroy, chairman of the Committee on Legislation, reported that "diploma mill" legislation (AB 6) has been introduced

into the current legislative special session, to establish a system of reporting on courses, faculty members and other items by all institutions purporting to issue diplomas in any course of learning above the secondary grades. Such reporting would be to the State Superintendent of Public Instruction under the Education Code.

Mr. Hassard also reported that a committee of representatives of hospital, medical and county organizations was being established to review the making of contracts by county boards of supervisors with private hospitals for the care of county wards. On motion duly made and seconded, it was voted to authorize the chairman of the Council to nominate two members for appointment to this advisory committee.

**14. Commission on Public Health and Public Agencies:**

(a) Doctor Warren Bostick, chairman of the Commission on Public Health and Public Agencies, reported that the Committee on State Medical Services had met to consider proposed rehabilitation programs and urged that county societies be informed on this subject. On motion duly made and seconded, it was voted to request the county societies to activate their rehabilitation committees without delay.

(b) Doctor Bostick also reported on discussions reported earlier by Doctor Malcolm Merrill on staphylococcus infections in hospitals. On motion duly made and seconded, it was voted to authorize the commission to disseminate information to hospitals and their staffs on this subject.

(c) Inasmuch as public supplies of poliomyelitis vaccine are now exhausted, it was regularly moved, seconded and voted that physicians be encouraged to carry on a program of securing the vaccination of their patients under age 40.

(d) Doctor Bostick discussed the efforts of some hospitals to secure a system under which physicians providing services under the Crippled Children's Act would be compensated on a direct billing basis, rather than as a part of a per diem payment to the hospital. It was suggested that the Committee on Fees consider this subject in the near future in an effort to establish a basis for the determination of separate billing procedures. On motion duly made and seconded, it was voted to refer this matter to the Commission on Medical Services and its Committee

on Fees, which would work with a committee from the California Hospital Association and transmit its recommendations to the State Department of Public Health.

**15. Committee on Nominations:**

Doctor Bostick, as chairman of the Committee on Nominations, submitted a list of commission and committee nominations prepared by his committee. The report also contained a suggested realignment of committees under the overlying commissions; on motion duly made and seconded, the committee realignment was approved and the secretary instructed to prepare suitable By-Law amendments to effectuate this suggestion.

**16. Public Welfare Assistance Law:**

Doctor West presented a draft of a letter which he proposed be mailed to all Association members by the Council, relative to the position and attitude of the Council on the Public Welfare Assistance Law. On motion duly made and seconded, the sending of this letter was approved.

**17. Legal Counsel:**

On recommendation of the Executive Committee, it was regularly moved, seconded and voted that the retainer fee paid to legal counsel be established at \$18,000 annually.

**18. Public Relations:**

Ed Clancy, Director of Public Relations, reported that a poll taken of the physicians attending the annual conference of county society officers on March 8 had indicated that all but one of the respondents reported they read *C.M.A. Newsletter* regularly and approved its content and method of presentation of news. Mr. Clancy also reported that the American Medical Association will inaugurate a tabloid form of newspaper for its members. He also reported on plans for meetings of medical students, interns and residents.

**19. Time and Place of Next Meeting:**

It was agreed that the next meeting of the Council would be held in San Francisco on Saturday, April 12, 1958.

**Adjournment:**

There being no further business to come before it, the meeting was adjourned at 6:30 p.m.

IVAN C. HERON, M.D., *Vice-Chairman*  
ALBERT C. DANIELS, M.D., *Secretary*



## In Memoriam

BALTIMORE, LOUIS. Died in Los Angeles, March 14, 1958, aged 58, of coronary thrombosis. Graduate of Stanford University School of Medicine, Stanford-San Francisco, 1926. Licensed in California in 1926. Doctor Baltimore was a member of the Los Angeles County Medical Association.



CHAFFIN, RAFE C. Died in Los Angeles, March 23, 1958, aged 75, of heart disease. Graduate of the University of Southern California, Los Angeles, 1907. Licensed in California in 1907. Doctor Chaffin was a member of the Los Angeles County Medical Association.



CHAMBERLAIN, BEN H. Died March 24, 1958, aged 77. Graduate of the State University of Iowa College of Medicine, Iowa City, 1903. Licensed in California in 1924. Doctor Chamberlain was a member of the Los Angeles County Medical Association.



GERLOUGH, ROBERT JOSEPH. Died in Palo Alto, March 23, 1958, aged 65. Graduate of the General Medical College, Chicago, 1924. Licensed in California in 1928. Doctor Gerlough was a member of the San Mateo County Medical Society.



KING, ERNEST HAROLD. Died March 25, 1958, aged 67. Graduate of Jefferson Medical College of Philadelphia in 1914. Licensed in California in 1921. Doctor King was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.



KOLB, HARRISON JOHN. Died in Oakland, March 20, 1958, aged 52, of hemorrhage from esophageal varices and hepatic coma due to cirrhosis of the liver. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1932. Licensed in California in 1932. Doctor Kolb was a member of the Alameda-Contra Costa Medical Association.



MCCANN, NEAL JOSEPH. Died in Redondo Beach, March 10, 1958, aged 58. Graduate of Stritch School of Medicine of Loyola, Chicago, 1928. Licensed in California in 1949. Doctor McCann was a member of the Los Angeles County Medical Association.

MCDONALD, JOHN. Died in Crawfordsville, Indiana, March 28, 1958, aged 67. Graduate of the College of Physicians and Surgeons of San Francisco, 1921. Licensed in California in 1921. Doctor McDonald was a member of the San Francisco Medical Society.



O'CONNOR, LOREN J. Died December 24, 1957, in Menlo Park, aged 55, of myocarditis. Graduate of the St. Louis University School of Medicine, St. Louis, Missouri, 1926. Licensed in California in 1952. Doctor O'Connor was an associate member of the Santa Clara County Medical Society.



OLKON, DAVID M. Died January 29, 1958, aged 80. Graduate of the University of Illinois College of Medicine, 1908. Licensed in California in 1945. Doctor Olkon was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.



PARKIN, VICTOR. Died March 19, 1958, aged 78. Graduate of Hahnemann Medical College of the Pacific, San Francisco, 1912. Licensed in California in 1912. Doctor Parkin was a member of the Los Angeles County Medical Association.



ROBERTS, JAY G. Died in Pomona, February 21, 1958, aged 83. Graduate of Rush Medical College, Chicago, 1899. Licensed in California in 1927. Doctor Roberts was a member of the Los Angeles County Medical Association.



STARK, LEANDER WILLIAM. Died March 25, 1958, aged 66. Graduate of the College of Physicians and Surgeons, Los Angeles, 1919. Licensed in California in 1919. Doctor Stark was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.



WILHITE, DAVID WALTER, JR. Died March 9, 1958, aged 32. Graduate of the University of Southern California School of Medicine, Los Angeles, 1949. Licensed in California in 1949. Doctor Wilhite was a member of the San Diego Medical Society.



# WOMAN'S AUXILIARY

## TO THE CALIFORNIA MEDICAL ASSOCIATION

### Report of the President

WITH A MEMBERSHIP of 6,602,\* 34 auxiliaries and seven branches, the Woman's Auxiliary to the California Medical Association is the largest in the nation. There still remains a few county medical societies unconvinced of the need for an auxiliary.

On the national and state level the auxiliary is recognized as a working unit of the association; on the county level a greater awareness and more appreciation of what the auxiliary is doing is needed. Those county societies employing the talents of the auxiliary have found competent and enthusiastic assistance. We must recognize that physicians' wives play a prominent role in the life of the community, and one of our purposes is to help the public at large understand the functions, policies and aims of the medical profession. We know that some of the best public relations is done when physicians' wives serve on health boards in their communities. Our entire program is geared to good public relations.

I wonder how many active members of the county societies know the name of the president of their county auxiliary, or how many know the projects of the auxiliary, or how many have asked her to write an article for the local bulletin?

Dr. David B. Allman, president of the American Medical Association, in a recent article said: "I feel very strongly that one of the primary responsibilities of the medical profession is to evaluate the areas of service where the auxiliary talents can best be utilized. . . . In all these endeavors I know the auxiliary leaders welcome training and supervision. In most cases this must come from the medical profession's own leaders who are familiar with medicine's needs and the policies determining these needs. But it is equally important for the medical profession to realize that the auxiliary, too, has something vital to offer—competent and enthusiastic assistance."

Are you aware of our vast nurse recruitment program? One of our primary projects is to supply up-to-date information to high school students about nursing as a career. Nursing has changed considerably since many of you and I were students in a hospital. We have licensed vocational nurses; the three, four and five-year programs; and, most recently, with the passage of Senate Bill 508, the two-year program.

We establish Future Nurse Clubs, and these are the foundation of the recruitment program. Today there are over 225 such clubs, 202 of them directly sponsored by the medical auxiliaries. Some of them are in your community. To date, we have over 9,000 members in these clubs, including over 200 boys. Physicians' wives are aware of the nursing shortage and aware, too, that our young people must be told of the changes taking place in the nursing profession.

County auxiliaries are the largest single group in California awarding nursing scholarships. Last year the auxiliaries awarded and administered over \$15,000 to students; and loans to 28 students amounted to \$4,486.

Another accomplishment is our "Folio on Recruitment," supplying basic criteria on recruitment of health personnel.

It is being used by other states and many of our procedures are in demand by other health agencies throughout the United States.

Through our GEMS program (Good Emergency Mother Substitutes) we teach teenagers safety methods in baby sitting. Safety and child care are so interwoven that education on how to care for children must include education in safe practices of both the sitter and the child.

Our members are constantly alerted through our legislative chairman of any legislation affecting medicine, whether it be on the national scene, state or county level. This year the work of legislation has been primarily on the Forand Bill. In this we have sought to educate our members and to ask for their cooperation in writing their senators and congressmen.

We act as your salesmen for *Today's Health*. Are you aware that it has been revamped with new personnel, new ideas and a new editorial approach? Are you aware that there are over 170,000 physician members of the A.M.A., but less than one-third of this membership subscribe to their own publication? The day of the uninformed patient is past. Your magazine, in your office, can provide your patients with the most accurate medical facts available to them today.

This year we are contributing \$2,439\* to Physicians' Benevolence. There is still considerable misunderstanding regarding this fund. Basically this misunderstanding again goes back to the county level; the physicians themselves are unaware of its purposes and operations.

No one is more cognizant of the cost of a medical education than the physician and his family. This year our check to the American Medical Education Foundation is \$3,454.60.\*

An innovation this past year has been the district meeting. District councilors, presidents and presidents-elect and branch chairmen meet to exchange ideas, to become acquainted and to learn.

Our publication *Courier* is still the outstanding auxiliary news bulletin in the United States. Each month through CALIFORNIA MEDICINE you have the opportunity to familiarize yourself with our program, with our many methods of serving American Medicine. We are a working service group, and health is our concern. Our many accomplishments take place at the county level, it is here the fresh and imaginative ideas are born; it is here we need guidance and direction.

The president and the board of directors of the Woman's Auxiliary wish to thank the Advisory Board and the staff at 450 Sutter Street for their assistance throughout the year. I personally wish to thank Bob Thomas for his diligent efforts and support during the past year, and for the many other years of his friendship and counsel; and President Frank A. MacDonald for his guidance, counsel and encouragement. We in the auxiliary take pride in our achievements. We hope that each of you will, too.

MRS. LEONARD D. OFFIELD  
President, Woman's Auxiliary to the  
California Medical Association

\*April 12, 1958.

## INFORMATION

### Campaign for Poliomyelitis Inoculation

POINTING OUT that more than 48 million Americans under age 40 still have not received even a first inoculation with Salk poliomyelitis vaccine, Dr. Julian P. Price, chairman of the American Medical Association Committee on Poliomyelitis has urged that physicians throughout the nation support and participate in community immunization campaigns. Dr. Price made the appeal in a letter to editors containing information on two important developments in the A.M.A.'s poliomyelitis inoculation campaign—the fourth shot question and a new Advertising Council promotional campaign. The letter follows:

*"Fourth shots are not considered necessary at this time. This was the consensus of Surgeon General Burney's poliomyelitis advisory committee in Washington, March 21. Representatives of the A.M.A., the American Academy of Pediatrics, the National Foundation for Infantile Paralysis, public health departments and others agreed that the present three-dose schedule provides ample protection for the time being. Individual physicians may decide to issue fourth dose when local outbreaks occur or when a patient is traveling to a place where poliomyelitis incidence is high. In such cases, the fourth dose need not be given sooner than a year after the third. The decision to administer an additional dose, the committee felt, should be made by the individual physician.*

*"Materials for a new Advertising Council poliomyelitis inoculation promotion drive are being sent directly to newspapers and radio and TV stations to be run at their good will. If you are planning a local inoculation drive or a continuing educational program this spring, a call on the local editor or station program director will help insure their use of the Advertising Council materials. These people are usually happy to donate time and space to public service advertising if they are aware of local interest and support.*

*"Last year, many medical societies found that group inoculations—as one phase of local programs*

*—helped immunize whole communities quickly, efficiently and thoroughly. By using this technique many societies finished up the job in a matter of days. Group clinics in almost every case boosted private office inoculations, earned excellent cooperation from volunteer agencies and quickly put the local poliomyelitis situation in the realm of routine vaccinations. For those societies planning clinics for the pre-poliomyelitis season, a handbook showing how some societies set up group programs is available.*

*"Public emotion has run high on the poliomyelitis inoculation problem, irritating some physicians to the point of exasperation. In spite of this feeling, the medical profession has assumed the leadership in the great majority of inoculation campaigns across the country. Many physicians write that they are enthusiastically backing up the poliomyelitis drive. Let's keep in mind one thing: As long as it is in our power to protect our patients from a disease—in this case poliomyelitis—it is our duty to see that they get that protection. There are currently 48.5 million Americans who still need to start their Salk series."*

In a handbook prepared for guidance of community campaigns to promote poliomyelitis immunization, two such programs already successfully carried forward in California are briefly described:

*San Diego—Dollar clinics were spearheaded by the county medical society which purchased the vaccine. City and county health departments furnished needles and syringes. Other equipment items were purchased from the \$1 fee. Clinics provided 72,000 shots from January through March.*

*Ventura—Dollar clinics sponsored by the County Medical Society and Junior Chamber of Commerce. Admission by ticket costing \$1. Two clinics held a month apart provided 16,000 shots. Clinics were staffed by volunteer physicians. Health department furnished vaccine, needles, syringes.*

Group inoculation centers in all parts of the country have proved increasingly effective in bringing large number of adults together in the shortest possible time, the handbook noted, continuing:

*"They generated enthusiasm, conquered apathy and general procrastination; they overcame the often personal, too often mistaken adult notion that "polio can't strike me"; and they solved the economic problem for many parents who felt they could not afford to have their families, particularly if they*

were large ones, vaccinated at even minimal office fees.

"Evening hours at group inoculation centers proved generally more convenient for:

"1. Housewives who could not spare daytime hours away from home;

"2. Young adults who could not take time off from work or school;

"3. Working fathers who appreciated the chance to go home from work, load the family car with wife and children, sometimes pick up neighbors, drive

them all off to the inoculation center and then back home again;

"4. Professional personnel who volunteered their time as a community service.

"Wherever group inoculations or clinics were held, private physicians found office calls for vaccination appointments greatly increased during and after the communitywide program. Far from causing physicians to lose fees, clinics and the attendant publicity multiplied the number of persons who came to physicians' offices for injections at regular fees."

#### For Your Patients—

### *About the Cost of Good Medical Care...*

While I know you understand that I, as your personal physician, am not in complete control of all medical care costs, I still would like to emphasize a few facts:

From your own experience you know that not-so-serious cases usually involve nothing more than the moderate expense of home or office visits and medication.

It is when serious illnesses or accidents require hospitalization that we may run into financial problems. Hospital charges, special nurses, drugs and appliances are all factors over which I have no *direct control*.

That is why it is my sincere hope that, should the need ever arise, you'll look upon me not only as your personal physician but also as a sort of "health engineer." In that capacity I am at your service to assist you in making arrangements for the best of medical care on the most reasonable financial basis possible.

I take those precautions when I am ill or when a member of my family requires extensive care. The same services are available to you.



*Sincerely yours,*

\_\_\_\_\_, M.D.

**MESSAGE NO. 6.** Postcard size, single fold leaflets, you to fill in signature. Available in any quantity, at no charge as another service to CMA members. Please order by Message No. from CMA, PR Dept., 450 Sutter, San Francisco.



# NEWS & NOTES

## NATIONAL • STATE • COUNTY

### LOS ANGELES

At a regional meeting of President Eisenhower's Committee on Employment of the Physically Handicapped, held recently at Berkeley, **Dr. A. C. Remington** of Los Angeles was cited for "exceptional contributions in advancing the employment of the physically handicapped."

Dr. Remington is medical director of the Garrett Corporation's AiResearch Manufacturing Division. In accepting the award, Dr. Remington said, "It is my special hope that such an award as this will serve to increase the interest of physicians everywhere to effectively help motivate the handicapped, and then assist industry with their knowledge of their particular patients so that handicapped individuals can be usefully employed. In my own community, there is hardly a member of our medical society who has not assisted us in this manner."

### SACRAMENTO

**Dr. John G. Walsh** of Sacramento was elected chairman of the Board of the American Academy of General Practice at the recent tenth annual assembly of the organization in Dallas. Dr. Walsh's term on the board expires in 1959.

### SAN FRANCISCO

The American Medical Golfing Association will hold its annual **golf tournament** in conjunction with the American Medical Association convention on June 23, 1958, at the Olympic Lakeside Golf and Country Club, San Francisco. The day will include "golf, luncheon, banquet, and a prize for everyone," the announcement said. "We have left no stone unturned to assure you the very best." Tee off time is 8 a.m. to 2 p.m. Information may be obtained from James J. Leary, M.D., 450 Sutter Street, San Francisco.

### SANTA CLARA

A medical symposia on **hematology and tissue transplantation** will be presented Saturday, May 17, by the Palo Alto Medical Clinic and the Palo Alto Medical Research Foundation to celebrate the opening of new research facilities by the Foundation. The hematology conference will begin at 9 a.m. and continue to noon, and the one on transplantation will begin at 2 o'clock and continue until 4:30, when ceremonies dedicating the new facilities will begin. At 5 o'clock the laboratories will be open for inspection.

### GENERAL

At the eighth annual meeting of the **California Society of Plastic Surgeons** held in Del Monte in March, the following officers were elected for the coming year: President, Dr. Gerald H. Gray, Oakland; vice-president, Dr. George V. Webster, Pasadena; historian, Dr. James B. Johnson, Beverly Hills; secretary-treasurer, Richard A. Shepard, Oakland.

Schering Corporation has announced that as part of its continuing audio-educational grant program for resident physicians and interns, it is sponsoring 200 one-year **subscriptions to "Audio Digest,"** a service consisting of tape recordings of important medical articles, clinical reviews and lectures, for teaching hospitals in the United States.

Produced by Audio Digest Foundation, a nonprofit subsidiary of the California Medical Association, each tape contains two half-hour sessions and can be played by individuals or to groups at the convenience of the listener.

The new educational service features lectures by prominent medical men, each one usually delivered in the author's own voice. The lecturers serve without pay to the Audio Digest Foundation. All revenue over the cost of production and distribution is contributed to the nation's 79 medical schools through the American Medical Education Foundation.

\* \* \*

The American Physicians Fellowship, Inc., for the Israel Medical Association is sponsoring an all-inclusive **tour to Israel** for the Fourth World Medical Assembly of the Israel Medical Association, to be held in Tel Aviv, Haifa, Jerusalem, August 12 to 24, 1958. The tour group will depart from New York via El Al Israel Airlines on August 9, and will leave Israel on August 24. Further details may be obtained from American Physicians Fellowship Inc., 1330 Beacon Street, Brookline 46, Massachusetts.

## POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: Mrs. Margaret H. Griffith, Director, Postgraduate Activities, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

### UNIVERSITY OF CALIFORNIA AT LOS ANGELES

**Collagen Diseases.** Friday and Saturday, May 23 and 24. Nine hours. Fee: \$35.00.

**Proctology** (enrollment limited for morning and afternoon—unlimited for afternoon lecture). Wednesday, May 28. Six hours. \$40.00 for all day, \$10.00 afternoon.

**Emotional Problems in Office Practice** (University of California Residential Conference Center, Lake Arrowhead). (Enrollment limited.) Thursday through Saturday, June 5 to 7. Sixteen hours. Fee: \$150.00 (including room and meals).

**Seventh Annual Symposium on Medical Technology.** Saturday and Sunday, June 14 and 15. Twelve hours. Fee: \$20.00.

**Techniques of Hypnosis** (enrollment limited). Monday through Wednesday, June 16 to 18. Fifteen hours. Fee: \$65.00.

**Advanced Techniques and Application of Hypnosis** (enrollment limited). Wednesday through Friday, June 18 to 20. Fifteen hours. Fee: \$110.00.

**Public Health Practices: Contributions of the Behavioral Sciences to Public Health Medicine** (enrollment limited). Wednesday, June 18 to July 23. Thirty-six hours.\*

**Dissection of the Thorax, Abdomen and Pelvis** (enrollment limited to 32). Friday and Saturday, June 27 and 28. Twelve hours. Fee: \$125.00.

**Obstetrics and Gynecology.** Thursday through Saturday, July 17 through July 19. Sixteen hours.\*

**Techniques of Surgery.** Monday through Friday (limited to 14), July 28 to August 1. Forty hours: Fee: \$500.00.

**Internal Medicine** (at University of California Residential Conference Center, Lake Arrowhead), Wednesday through Saturday, August 20 to 23. Sixteen hours.\*

**Anesthesiology.** Wednesday through Friday, August 27 through August 29. Sixteen hours. Fee: \$50.00.

**Contact:** Thomas H. Sternberg, M.D., Assistant Dean for Postgraduate Medical Education, U.C.L.A., Los Angeles 24. BRadshaw 2-8911, Ext. 202.

#### UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

**Current Advances in Laboratory Procedures** (for Technologists). Saturday and Sunday, May 17 and 18. Eleven hours. Fee: \$15.00.

**Orthopedic Surgery and Fractures.** Friday to Sunday, May 23 to 25. Twenty hours. Fee: \$50.00.

**Ear-Nose-Throat.** Friday and Saturday, June 6 and 7. Fourteen hours. Fee: \$40.00.

**Fundamental Principles of Radioactivity and the Diagnostic and Therapeutic Uses of Radioisotopes.** Two or three month course limited to one enrollee per month.\*

**Contact:** Seymour M. Farber, M.D., Head, Postgraduate Instruction, Office of Medical Extension, University of California Medical Center, San Francisco 22. MOntrorse 4-3600, Ext. 665.

#### STANFORD UNIVERSITY SCHOOL OF MEDICINE

**Morning Clinical Conferences,** each Monday, Room 515. **Contact:** D. H. Pischel, M.D., Professor, Division of Ophthalmology, Stanford University School of Medicine, 2398 Sacramento St., San Francisco 15.

#### UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

**Cardiac Resuscitation.** Sponsored by the Los Angeles County Heart Association each Wednesday throughout the year, 4 to 6 p.m., USC Medical Research Building, Room 211, 2025 Zonal Avenue. Residents and interns of Los Angeles County, and all armed forces medical personnel admitted without fee. Tuition for all other physicians \$30.00. (Each session all-inclusive.)

**Basic Home Course in Electrocardiography.** One year Postgraduate Series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: \$100.00.

\*Fee to be announced.

**Advance Home Course in Electrocardiography.** One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: \$85.00. Physicians may register at any time.

**Office Orthopedics in General Practice.** Designed to be of value to the physician in general practice. May 23 to 25, Hotel Statler, Los Angeles, 9 to 5 each day. Fee: \$75.00.

**Special Announcement:** From August 5 to August 21, 1958, the University of Southern California School of Medicine will hold a postgraduate course in Honolulu and on board the *S.S. Matsonia*. The course will center around actual case histories, which will be used to emphasize diagnostic and therapeutic features.

**Contact:** Phil R. Manning, M.D., Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

#### COLLEGE OF MEDICAL EVANGELISTS

**Audio-Visual Postgraduate Refresher Courses.**

Courses are made up of four or more half-hour lectures each, recorded on hi-fi magnetic tape and illustrated by 35-mm. filmstrips or slides in full color, and adapted for use on any standard tape recorder and filmstrip or slide projector, automatic or manual.

**Contact:** Paul D. Foster, M.D., chairman, Committee on Audio-Visual Courses, College of Medical Evangelists School of Medicine, 316 North Bailey St., Los Angeles 33.

**AUDIO DIGEST FOUNDATION,** a nonprofit subsidiary of the C.M.A., now offers (on a subscription basis) a series of hour-long tape recordings designed to keep the physician abreast of current happenings in his particular field. Composed of practice-useful abstracts from 600 leading journals, with short lectures and editorial comments from prominent physicians, Audio Digest offers programs covering general practice, surgery, internal medicine, obstetrics and gynecology, and pediatrics.

**Contact:** Claron L. Oakley, editor, 1919 Wilshire Blvd., Los Angeles 57.

## Medical Dates Bulletin

#### MAY MEETINGS

**CHILDREN'S HOSPITAL OF THE EAST BAY** Sixth Annual Clifford D. Sweet Seminar, May 16 and 17, Claremont Hotel, Berkeley. **Contact:** Arthur Bolter, M.D., Clifford D. Sweet Lectureship Committee, Children's Hospital of the East Bay, 51st and Dover St., Oakland 9.

**AMERICAN ACADEMY OF APPLIED NUTRITION** 22nd Annual National Convention, May 16 through May 18, Huntington-Sheraton Hotel, Pasadena. **Contact:** R. T. Pottinger, M.D., vice-president, 960 E. Green St., Pasadena.

**PALO ALTO MEDICAL CLINIC—PALO ALTO MEDICAL RESEARCH FOUNDATION,** Medical Symposia: Hematology and Tissue Transplantation, Auditorium, Palo Alto Medical Clinic, 8:30 a.m., May 17, 904 Bryant St., Palo Alto. **Contact:** John F. Weigen, M.D., program chairman, Palo Alto Medical Clinic, Palo Alto.

LOS ANGELES ACADEMY OF GENERAL PRACTICE, Sports Medicine Symposium, 1925 Wilshire Boulevard, Los Angeles, 9 to 5 daily, May 17 and 18, buffet luncheon daily. Registrants: Physicians, athletic directors, coaches and trainers. Fee: \$10.00, includes both lunches. Registration in advance. *Contact:* Ralph L. Bennett, M.D., secretary, Los Angeles Academy of General Practice, 9312 Tenth Avenue, Inglewood 4.

HAWAIIAN DIVISIONAL MEETING, AMERICAN PSYCHIATRIC ASSOCIATION, May 17 to 22, Hawaiian Village, Honolulu. *Contact:* Alfred Auerback, M.D., 450 Sutter St., San Francisco.

WESTERN BRANCH, AMERICAN PUBLIC HEALTH ASSOCIATION Annual Meeting with Canadian Public Health Association, May 19 to 23, Vancouver, B. C. *Contact:* Mrs. L. Amy Darter, secretary-treasurer, 2151 Berkeley Way, Berkeley 4.

AMERICAN LARYNGOLOGICAL ASSOCIATION, May 19 to 20, San Francisco. *Contact:* James H. Maxwell, M.D., secretary, University Hospital, Ann Arbor, Michigan.

AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION, May 21 to 23, San Francisco. *Contact:* F. Johnson Putney, M.D., secretary, 1719 Rittenhouse Square, Philadelphia, Pa.

CALIFORNIA HEART ASSOCIATION Annual Meeting, Scientific Session and Directors Meeting, Hacienda Motel, Fresno, May 23 to 25. *Contact:* J. Keith Thwaites, executive director, 1428 Bush St., San Francisco.

#### SUMMER AND FALL MEETINGS

AMERICAN COLLEGE OF PHYSICIANS, Course in Internal Medicine, University of California Medical Center, San Francisco, June 16 to June 22, all day, each day. *Contact:* E. R. Loveland, executive secretary, American College of Physicians, 4200 Pine Street, Philadelphia 4, Pennsylvania.

AMERICAN COLLEGE OF CHEST PHYSICIANS 24th Annual Meeting, June 18 to 22, San Francisco. *Contact:* Mr. Murray Kornfeld, executive director, 112 East Chestnut St., Chicago 11, Ill.

AMERICAN MEDICAL ASSOCIATION Annual Meeting, June 23 to 27, San Francisco. *Contact:* American Medical Association, 535 North Dearborn St., Chicago 10.

AMERICAN PROCTOLOGIC SOCIETY, June 29 to July 3, Los Angeles. *Contact:* Norman D. Nigro, M.D., secretary, 10 Peterboro St., Detroit 1, Michigan.

HAWAII MEDICAL ASSOCIATION Summer Conference, July 1 through July 3, Honolulu. *Contact:* Lee McCaslin, executive secretary, 510 S. Beretania St., Honolulu.

IDAHO STATE MEDICAL ASSOCIATION Annual Convention, July 6 to 9, Sun Valley, Idaho. *Contact:* Armand L. Bird, executive secretary, 364 Sonna Building, Boise.

ROCKY MOUNTAIN CANCER CONFERENCE, July 9 and 10, Shirley-Savoy Hotel, Denver. *Contact:* Alexis E. Lubchenco, M.D., 835 Republic Bldg., Denver 2, Colo.

NEW MEXICO CHAPTER ACADEMY OF GENERAL PRACTICE Ruidosa Summer Clinic, July 21 through July 24, Ruidosa, New Mexico. *Contact:* Frederick R. Brown, M.D., secretary-treasurer, 207 N. Union, Roswell, New Mexico.

WESTERN REGIONAL MEETING, INTERNATIONAL COLLEGE OF SURGEONS, Riverside Hotel, Reno, Nevada, August 21 to 23. *Contact:* Leo D. Nannini, M.D., 190 Mill Street, Reno, Nevada. For reservations, write Riverside Hotel, Reno, Nevada.

SAINT JOHN'S HOSPITAL POSTGRADUATE ASSEMBLY, September 11 through September 14, Saint John's Hospital, Santa Monica. *Contact:* John C. Eagan, M.D., director, Postgraduate Assembly, 22nd St. at Santa Monica Blvd., Santa Monica.

WASHINGTON STATE MEDICAL ASSOCIATION Annual Convention, September 14 to 17, 1958, Spokane, Washington. *Contact:* Ralph W. Neill, executive secretary, 1309 Seventh Ave., Seattle, Wash.

NEVADA STATE MEDICAL ASSOCIATION Annual Meeting, September 17 through 20, Elko, Nevada. *Contact:* Nelson B. Neff, executive secretary, P. O. Box 188, Reno.

COLORADO STATE MEDICAL SOCIETY Annual Session, September 24 through 27, Broadmoor Hotel, Colorado Springs. *Contact:* Harvey T. Sethman, executive secretary, 835 Republic Bldg., Denver 2.

CALIFORNIA ACADEMY OF GENERAL PRACTICE Tenth Annual Scientific Assembly, October 5 to 8, Masonic Temple, San Francisco. *Contact:* William W. Rogers, executive secretary, 461 Market Street, San Francisco 5.

FIFTH ANNUAL FORT MILEY SURGICAL CLINICS AND SYMPOSIA sponsored by the San Francisco Academy of General Practice in cooperation with Faculties of Stanford University School of Medicine and University of California School of Medicine at Fort Miley Veterans Administration Hospital, 42nd Avenue and Clement Street, San Francisco, will start on October 14, 1958 at 8 p.m. and each Tuesday thereafter ending November 18, 1958. *Contact:* Alexander F. Fraser, M.D., 3490 20th Street, San Francisco.

CALIFORNIA SOCIETY OF INTERNAL MEDICINE Annual Meeting, October 17 to 19, Ahwahnee Hotel, Yosemite. *Contact:* Mrs. Mildred B. Coleman, executive secretary, or Dr. Clyde C. Greene, secretary-treasurer, 350 Post St., San Francisco 8.

AMERICAN HEART ASSOCIATION Scientific Sessions and Meetings, October 24 to 28, Fairmont Hotel and Civic Auditorium, San Francisco. *Contact:* J. Keith Thwaites, executive director, California Heart Association, 1428 Bush Street, San Francisco 9.

LOS ANGELES COUNTY HEART ASSOCIATION 28th Annual Professional Symposium, October 29 and 30, Wilshire Ebell Theater. *Contact:* Los Angeles County Heart Association, 660 S. Western Ave., Los Angeles 5, DUnkirk 5-4231.

SANTA BARBARA COUNTY HEART ASSOCIATION, Professional Symposium, 9 to 5 p.m., November 1, Biltmore Hotel, Santa Barbara. *Contact:* Mrs. Katherine McCloskey, executive director, 18 La Arcada Court, Santa Barbara.



## THE PHYSICIAN'S *Bookshelf*

**PRE-EMPLOYMENT DISABILITY EVALUATION** — William A. Kellogg, M.D., F.A.C.S., formerly associated with the Medical Dept., Douglas Aircraft Co., Inc., Long Beach, California Division; Clinical Professor of Surgery, New York Polyclinic Post-Graduate Medical School; Assistant attending Surgeon, Bellevue, Broad St., Gouvener, and Polyclinic Hospitals, New York, N. Y. Preface by H. L. Herschensohn, M.D. Published Nov. 25, 1957, by Charles C. Thomas, 301-327 E. Lawrence Ave., Springfield, Ill. 155 pages, \$10.50.

The author has written a comprehensive guide which aims and, to a great extent, succeeds in providing a key to an applicant's employability. The book begins with a statement of the importance of pre-employment examinations. In addition to the general systematic breakdown, there are also considered: (1) Diseases and conditions due to various types of organisms, (2) External agents and their effects, (3) Nutritional and constitutional diseases and conditions, (4) Restrictions, (5) Tumors and cysts, (6) Medical forms, and finally, re-examination of employees. This material has been compiled on the basis of the author's experience with twenty thousand pre-employment examinations. It is presented in a form which can be altered as circumstances require.

This book is an attempt to fill a void which has been too long vacant. From a technical point it does so. Its very strength, its emphasis on techniques of measuring disability, is also its weakness. Used as a reference book by an examining physician or by an employment manager to evaluate the seriousness of any particular handicap or ailment of an applicant, it will serve a useful purpose. It will supply guide lines for consideration. If it is used as a Bible and is followed blindly, it will likely result in consequences which are disturbing to contemplate.

Little is mentioned about the attitude of applicants, nor how well they may have compensated for their defects. Concessions in accepting applicants with defects are made somewhat grudgingly. The book is reminiscent of an older philosophy that an employer is buying labor off the open market and is entitled to select the cream of the crop. A more current philosophy, which a reader of this book might not suspect exists, is that a cross section of the community should be employed and only those with defects which are more than ordinary risks to themselves or others, including the employer, should be rejected. Only in a market with a great excess of labor could the standards of this book be enforced and the employer hire enough help to operate his business. This criticism is not too serious, since the situation will be self-correcting. The young enthusiastic examining physician or employment manager will not long exercise this power of rejection of applicants to the unrestricted extent described before he will be "educated" by the management that the employer's first interest is production and if the medical standard set for applicants interferes with hiring sufficient help to meet production needs, the medical standard must be lowered.

One gains the impression that the examining physician

works in a vacuum and can ignore the employer's need for labor and disregard any social obligation to the community. The examining procedure is apparently considered as rigid and inflexible as the rejection of oranges in a fruit shed for failure to meet a color standard, regardless of how sweet or copious their juice.

That this impression is not inconsistent with the author's belief seems to be borne out by the fact that two pages are devoted to "The Pre-Employment Examination as Conducted by a Nurse." Regardless of the situation in other states, these two pages are a wide open invitation to the California nurse who carries out the prescribed program to invite the investigative attention of the State Board of Medical Examiners. Your reviewers were shocked with some of the statements and alarmed for fear the suggestions would be followed. Some of the statements in this section are as follows: (*Italics are the reviewers*) "Where such authority (x-rays, consultations, etc.) is not deemed advisable . . . the nurse should be instructed to reject all applicants about whose condition she is uncertain."

Parenthetically, it is with some relief that it was noted that capable as she is to examine the eyes, ears, nose, and throat, that "the nurse should avoid the use of the otoscope." "The nurse will have the same choice of decisions as the physician medical examiner; namely, *medical hold*, approval, rejection, or approval with restrictions."

The author admits that unless the nurse is authorized to refer applicants to an outside physician, the number she must reject will be higher than when the examinations are conducted by a physician. However, he finds solace in the fact that *around 60 per cent are physically sound*, and with this note of optimism, concludes that "the pre-employment examination carried out by a nurse may prove satisfactory and is far better than no examination at all." To your reviewers, this seems like advising parents that dynamite caps may be satisfactory playthings for children and are far better than no toys at all.

The final word in this section is described as the proper guide for the nurse who is to conduct such an examination: "*When in doubt, reject.*"

Fortunately, most nurses in California have a high enough regard for their profession to stay within the confines of the medical and nursing practice acts. The California State Nurses Association has done much to educate the members regarding the pitfalls of practicing medicine. There may still be the unwary or inexperienced for whom this word of caution may be helpful.

This book has much to commend it. It is, however, arbitrary in the reviewers' belief and to follow it literally would be to invite embarrassment, if not difficulty. Therefore, if the reader finds himself in doubt as to whether he should follow its advice or not, he might remember the author's injunction to a nurse who is in doubt.

JOHN T. WILSON, M.D., and  
CHRISTOPHER LEGGO, M.D.



**CLINICAL HEART DISEASE**—Samuel A. Levine, M.D., F.A.C.P., Clinical Professor of Medicine, Harvard Medical School; Physician, The Peter Bent Brigham Hospital, Boston; Consultant Cardiologist, Newton-Wellesley Hospital; Physician, New England Baptist Hospital. Fifth Edition, Illustrated. W. B. Saunders Co., Philadelphia and London, 1958. 673 pages, \$9.50.

The fifth edition of Levine's *Clinical Heart Disease* maintains the high standards of its predecessors and brings up-to-date much of the material. The two major additions to this new edition are a chapter on "Congenital Heart Disease" by Doctor Nadas of the Children's Hospital in Boston and a long section on "Electrocardiography" by Doctor Harold Levine of The Peter Bent Brigham Hospital in Boston. The latter is more than 200 pages in length and is an excellent modern version of the subject which incorporates concepts of vectorcardiography as well as clinical electrocardiography. This section would be worth independent publication.

Doctor Levine's book is characterized by its lucid presentation of opinions substantiated by years of clinical experience, its intensely personal nature, and by its illustration of points that Levine chooses to make by succinct clinical histories. These last are usually short, sparkling accounts of events in patients that highlight diagnoses or therapy.

The author has maintained the purely personal aspect of the text by citing no references, making it clear that his remarks are his own opinions and based on his own experiences. This, of course, has advantages and disadvantages and assumes some knowledge of the field and is an additional source of reference material. The book, therefore, will not stand alone as a text in cardiology such as those by Wood, White and Friedberg; it is a superb adjunct by one of the masters of clinical cardiology in this country. It is highly recommended.

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**SURGERY IN WORLD WAR II—Ophthalmology and Otolaryngology**—Colonel John Boyd Coates, Jr., M.D., Editor in Chief; M. Elliott Randolph, M.D., Editor for Ophthalmology; Norton Canfield, M.D., Editor for Otolaryngology, Office of the Surgeon General, Department of the Army, Washington, D. C., 1957. For sale by Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., 605 pages, \$5.00.

This volume, which presents the history of ophthalmology and otolaryngology during World War II, was written by 24 medical officers in these two services during the war. The book is part of the overall history of surgery in World War II.

Ophthalmology, which is discussed in the first 378 pages, covers the activities in the Zone of the Interior, the Mediterranean Theater of Operations, the European Theater of Operations, and the Southwest Pacific and the Pacific Ocean Areas.

While of necessity there are many statistical accounts, there are portions that are of more than passing interest to the civilian ophthalmologist.

One of these is the account of the development of acrylic eyes which were developed by the combined cooperation of the Medical and Dental Corps. These artificial eyes had so many advantages over the glass eyes formerly used that their use has been adopted in civilian life.

Another thrilling episode is the 62-page account of the rehabilitation of blinded casualties as described by Dr. James N. Greear, Jr., who was the guiding light in initiating what soon became an outstanding blind program.

Also noteworthy in the volume is the very small number of cases of sympathetic ophthalmia observed in World War II.

Seven chapters of the book are devoted to Otolaryngology.

Of these, five chapters deal with the various phases of the aural rehabilitation program for the deafened and the hard of hearing. While this program was less extensive and considerably less satisfactory than the rehabilitation program of the blind, it did produce a good deal of knowledge which has been carried over to the peacetime Army program of the loss of hearing. In addition, the lessons learned have been carried over into the civilian care of the hard of hearing.

The chapter on facial paralysis in military personnel places particular emphasis on the methods of surgical repair of the facial nerve.

All in all the volume contains many things of interest to the civilian ophthalmologist and otolaryngologist.

The paper, type and illustrations are all excellent, and the general format is far superior to the similar publication following World War I.

FREDERICK C. CORDS, M.D.

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**SYNOPSIS OF OTORHINOLARYNGOLOGY**—John F. Simpson, F.R.C.S., Ian G. Robin, F.R.C.S., and J. Chalmers Ballantyne, F.R.C.S. John Wright & Sons, Ltd., Bristol, 1957. The Williams and Wilkins Company, Baltimore, U. S. Agents. 443 pages, \$8.50.

As stated in the preface, this book is "intended for quick reference and revision for those who are studying for post-graduate examinations in this specialty." However, it is much more comprehensive than the authors modestly state. It should be useful as a reference not only to the ones mentioned, but to otolaryngologists, general practitioners and also to various lay groups, such as teachers, physiologists and lawyers interested in medico-legal problems. It gives a synopsis of all parts and phases of the ear, nose and throat, including embryology, anatomy, physiology and treatment. Surgical principles are described but no detailed techniques are attempted, as they are not within the scope of the book. There are 88 excellent drawings, which aid in explaining the text. The final section of "Diseases of the Nervous System in Relation to Otorhinolaryngology" is a welcome addition and includes intracranial complications, lesions of the cranial nerves, headache, facial pain, vertigo and speech and its disorders. The book is well written, concise and covers the subject completely. It should be on the shelf of every reference library.

LAWRENCE K. GUNDRUM, M.D.

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**SYMPOSIUM ON DISEASES AND SURGERY OF THE LENS**—Editor, George M. Halk, M.D., F.A.C.S., Professor of Ophthalmology, Louisiana State University School of Medicine; Associate Editor, Elizabeth M. McFetridge, M.A., Art Editor, Don Alvarado. C. V. Mosby Company, St. Louis, 1957. 260 pages, \$10.50.

This book is a newer approach to textbook instruction. It has an excellent practical resume of the embryology of the lens to begin the symposium.

The next chapters deal with types of cataracts both pre- and postnatal. Next in sequence is the surgical removal of the various types of cataracts. Following this is the treatment of complications.

Then follows a chapter on the vitreous and its relationship to cataracts and the removal of cataracts.

To me the most interesting portion of the book is the final chapter of round table discussions. These are basically clinical observations made by competent surgeons who have had decades of experience. This is a very enlightening book for an eye surgeon.

ALFRED R. ROBBINS, M.D.

**PRACTICAL OTOLARYNGOLOGY**—Gervais Ward McAuliffe, M.D., F.A.C.S., F.I.C.S., Associate Clinical Professor of Otolaryngology, Cornell University Medical College. Landsberger Medical Books, Inc. Distributed by The Blakiston Division of the McGraw-Hill Book Co., 330 West 42nd Street, New York 36, N. Y., 1957. 320 pages, \$7.00.

Unlike its prototypes, McAuliffe's "Practical Otolaryngology" designated as a handbook for the general practitioner, is not a standard abridgement. It is, rather, a well organized compilation of gleanings from many years of practice and teaching. Much of its value is derived from the unorthodox style of exposition employed by the author. This book offers a great deal of information concerning practical approaches to diagnosis and therapy of common otolaryngologic diseases. The presentation of this material is similar to what might be encountered in brief, intimate, clinical conferences in a postgraduate course.

While many of this book's virtues lie in its brevity, so do most of its faults; in many of the passages its conciseness tends to be misleading or confusing. The work is studded with categorical statements of a controversial nature. For example, Dr. McAuliffe recommends the use of novobiocin (referred to in the text by a trade name) in traumatic perforations of the tympanic membrane.

Dr. McAuliffe illustrates his material with his own admirable line drawings. More of these should have been included. Many of the other illustrations, especially the photographs of the "McAuliffe Aerosol Machine" and the "McAuliffe Wet Suction Apparatus for Treatment and Diagnostic Irrigation of the Tonsil," could well have been deleted. (An entire chapter is devoted to the "McAuliffe Wet Suction Apparatus." Since this device, which was originally reported by the author in 1931, has not gained acceptance by otolaryngologists, the inclusion of a chapter describing it to the general practitioner seems to be injudicious.)

Despite these criticisms, this book is recommended to the general practitioner, so much of whose work is in ear, nose, and throat. The handbook would also be helpful to medical students, interns, and residents in fields other than otolaryngology.

CHARLES P. LEBOWITZ, M.D.

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**LUMBAR PUNCTURE AND SPINAL ANALGESIA**—Second Edition—Sir Robert Macintosh, M.A., D.M., F.R.C.S. (Edin.), F.F.A.R.C.S., M.D., Nuffield Professor of Anaesthetics, University of Oxford. The Williams and Wilkins Co., Baltimore, exclusive U. S. agents, 1957. 142 pages, \$6.00.

This eminent British anesthesiologist presents in his monograph far more than the technique of lumbar puncture and spinal analgesia. The early history of spinal analgesia is told in an interesting first chapter. In a chapter devoted to anatomy, the bony structures in the lumbar region are presented in a detailed and clear fashion. The various ligaments and the intervertebral discs are also accurately described. Both the cranial and spinal meninges, as well as the subarachnoid space, are discussed in detail, and clarified by excellent colored drawings. While there is a good description of the extradural space, and the important role of the latter compartment in relation to the improper spinal puncture or intrathecal injection, no attempt is made to discuss the gross or microscopic anatomy of the spinal cord, but attention has been given to the dentate ligaments, the anatomy of the cauda equina, and the position of the conus medullaris in the infant and adult.

The description of cerebrospinal fluid physiology is an oversimplified presentation based on the classical theories dating to the work of Dandy and Weed. The ventricular system, as well as the cranial and subarachnoid pathways, is very clearly illustrated. The composition, function, vol-

ume, and pressure of the cerebrospinal fluid are all discussed.

A separate 25-page chapter contains numerous drawings of anatomical dissections covering the entire spinal canal and the posterior fossa. There is considerable repetition, in this section, concerning points covered in the chapters on anatomy and the cerebrospinal fluid, but the illustrations are of excellent quality, and the accompanying comments by the author serve to emphasize important points.

The sterilization of the patient's skin, of the operator and of syringes, needles and drugs is fully outlined. A detailed description of the technique of lumbar puncture in both the lateral decubitus and sitting positions is presented, and this chapter is accompanied by a series of excellent illustrations depicting most of the technical difficulties that may be encountered.

In a separate chapter concerning the distribution of analgesic solutions, the author has described the effects of gravity, volume displacement, turbulent currents, and barbotage.

The problem of headache following both lumbar puncture and spinal analgesia is adequately discussed.

The final chapter, entitled "Do's, Don'ts, and Doubts," contains a number of working rules concerning lumbar puncture and spinal analgesia which this experienced anesthetist has found to be of value.

This monograph does not describe cisternal puncture, extradural anesthesia or caudal blocks. It probably will have little to offer to the well-trained physician anesthetist. It should be of real value to those beginning their training in anesthesiology, as well as to those surgeons who, through varying circumstances, administer their own spinal analgesia.

The excellent illustrations and the clear description of technique should make this book valuable to all physicians who perform lumbar punctures, and it will be especially helpful to those training in neurology, neurosurgery, orthopedics, and radiology.

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**PHYSICAL METHODS IN PHYSIOLOGY**—W. T. Catton, M.Sc. Physiology Department, Kings College, Newcastle-upon-Tyne. Philosophical Library, Inc., 15 East 40th St., New York City 16, N. Y., 1957. 375 pages, \$10.00.

Here is a very easy-reading, non-"stuffy" book packed with vital basic facts about physical problems and methods in better understanding and application of physiology.

Certainly, the contents are highly technical, but the reader does not lose the major objective of the discussion in favor of rhetoric. It is well written.

Students of medicine can use this handy volume with its accurate information, to the point and at the same time presenting a definite "feeling" for the clinical problems which are implied by the subjects.

Seven vital chapters give an excellent basic overview of the physical problems of Blood, the Circulation, Respiration, Muscle, Peripheral Nerve, the Physical Basis of Body Heat Exchanges, and Electronics in Physiology.

A clear and concise section on sedimentation rate gives the reader the tools he needs for better interpretation and evaluation of his laboratory work. Speculation is absent. Another example is how "the effects of gravity" on circulation section explains why many patients faint during an upper G.I. series and other tests where the body is maneuvered. Effects of acceleration on circulation described here can be easily applied to aviation and space travel medicine.

Although the title might imply this book to be for researchers in physiology, I can honestly say clinicians will enjoy its contents.

HARLAND GOLDWATER, M.D.

**TEXTBOOK OF GYNECOLOGY—Second Edition—John I. Brewer, B.S., M.D., Ph.D., Professor of Obstetrics and Gynecology, Northwestern University Medical School, Chief of Gynecology and Obstetrics, Passavant Memorial Hospital, Chicago, Ill. The Williams & Wilkins Co., Mount Royal and Guilford Avenues, Baltimore 2, Maryland, 1958. 742 pages, \$15.00.**

This second edition of Brewer's gynecologic textbook really represents his third effort, although the first volume in the series was published by a different firm in 1950. The edition of 1953 represented a considerable expansion of the original material, and the present edition is not only a much larger book than the last one but exhibits the material in quite a different sequence.

The first part of the book is concerned with signs, symptoms and complaints of patients, and these items are somewhat artificially grouped into three sections relating to childhood, maturity, and the aging female. The section on childhood contains a lengthy chapter on basic endocrinology and various clinical endocrine problems, contributed by Edwin De Costa, but much of this material has nothing at all to do with children.

The section on maturity deals with the usual problems of adult women—uterine bleeding, vaginal discharge, tumors, infertility, and various sorts of pelvic pain. The material is essentially the same as that of the previous edition. It is pleasing to note that the author now refers to uterine myomas instead of fibroids. Finally, the aging patients are allotted the chapters on vaginal protrusions, urinary incontinence, postmenopausal bleeding, and a few other items of lesser magnitude, although many of the problems mentioned here are by no means found exclusively in the senescent woman.

The second major portion of the book is virtually the same as Part I of the previous edition—a fairly standard coverage of the topics usually found in a gynecologic text, in ascending order, from vulva to ovaries. The chapter on carcinoma of the cervix has been rewritten and greatly expanded, and several pages of references have been added. Similar revision has been afforded the material on endometriosis.

This book was designed for undergraduate teaching, with a view to preparing students for general practice, but it is rapidly becoming too bulky for this purpose. One wonders what has impelled the author to add more than two hundred pages to this new edition and to include great numbers of references which no medical student will ever get around to consulting. While the general plan of this work—a dual presentation of much of the material—is different, to say the least, your reviewer is not certain that he is prepared to recommend this book to students for anything more than supplementary reading. Physicians in general practice may find it of some aid in trying to match symptoms with diagnoses.

C. E. McLENNAN, M.D.

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**DISTURBED COMMUNICATION—The Clinical Assessment of Normal and Pathological Communicative Behavior—Jurgen Ruesch, M.D., W. W. Norton & Company, Inc., New York, 1957. 337 pages, \$6.00.**

As the third of a triad of books concerning communication, this volume attempts a further effort at describing the pathology of mental and emotional diseases in terms of a general framework. Ruesch's interest in communication which led to the production of the previous two volumes seeks to embrace a variety of personality and social disturbances in terms of their effect on communication. The results of poor communication and the therapeutic value of restoring some of these difficulties in the area of interpersonal relationships forms the burden of this volume.

The book opens with an excellent review of source ma-

terial concerning abnormal mental and psychodynamic processes, as well as abnormal growth and development. The communication aspect is added in the second section where both gratifying and frustrating communications are described. This is further elaborated when disturbed communication is divided up into its various components. Particularly well described are the various mechanisms which are used in the feed-back process: in other words, our various responses to the communications of others. There is an excellent discussion of the role of value judgments as disturbing elements in the communication process.

Finally, this is built into the psychopathology of communication difficulties, both in terms of individual psychopathology and the pathology of the social group. The discussion of the individual pathology presents Ruesch's concept of communication as a basis for fundamental personality difficulties. The discussion of group pathology is a well organized presentation of how the disturbed individual reacts to and is reacted upon by the various group situations in which he lives.

The second section of the book is entirely made up of a guide for the use of the previously described material. It consists of a rather elaborate clinical outline to use in the diagnostic process in accordance with Ruesch's tenets. Many people will find it difficult to utilize without a great deal of practice partly because of its unfamiliarity and partly because it is not an ordinary type of clinical approach. However, it presents one further approach to clinical diagnosis in a field that still has a need for simplicity and clarification. Modern psychiatry continues to search for an overall approach to the reactions of the personality and the use of that reaction in interpersonal relations.

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**GENERAL DIAGNOSIS AND THERAPY OF SKIN DISEASES—Herman Werner Siemens, M.D., Professor of Skin and Venereal Diseases at the University of Leiden, Holland. Translated from the German Edition by Kurt Wiener, M.D., Dermatologist, Mt. Sinai Hospital, St. Michael Hospital, Milwaukee, Wis. The University of Chicago Press, 5750 Ellis Avenue, Chicago 37, Ill. 324 pages. \$10.00.**

The book is divided into two main sections, General Diagnosis and General Principles of Therapy. In the diagnostic section, Doctor Siemens discusses various aspects of the morphology of skin lesions such as the types and variations of the primary and secondary lesions, variations in the shape and distribution of the lesions and the significance of color in diagnosis. A chapter is devoted to a description of the lesions involving the hair and nails, and another chapter is devoted to the interpretation of systemic symptoms.

The book is different from most texts in dermatology. The emphasis is placed on the lesions, how and why they develop into the specific pictures that appear upon the patient's skin. This is in contrast to most texts in dermatology, which treat each disease as a specific entity and which treat the development and pathogenesis of clinical lesions in a hasty and superficial manner.

The second general section on therapy includes sections on vehicles, active ingredients, administration of topical treatment, physical therapy and an excellent chapter on "Therapy and Experience."

The photographs are excellent and display with clarity the points which the author attempts to bring out in the text. The book is written so that the medical student, the practitioner and the dermatologist can all equally comprehend the material easily. The text should broaden the dermatologic perspective of all those who read it, and it is highly recommended as an auxiliary book.

HAROLD M. SCHNEIDMAN, M.D.

**THERAPEUTIC HEAT**—Sidney Licht, M.D., Honorary Member, British Association of Physical Medicine, Danish Society of Physical Medicine, and the French National Society of Physical Medicine. Elizabeth Licht, Publisher, 1958. 360 Fountain St., New Haven, Conn. 466 pages, \$12.00.

This book is Volume II of a series of books to constitute a Physical Medicine Library. The editor has gathered together under one cover almost all that is known of the medical therapeutics of heat. The subject is covered under Physics, Thermometry, Physiological Responses, History, General Principles, etc. The uses of heat in various clinical disorders are then described, giving their rationale and application. Ultrasound therapy is included in this book, since one of its physiologic effects is supposed to be heating. According to the publisher, "this book is designed to help practitioners use heat more intelligently in relieving those complaints of their patients likely to respond to therapeutic heat." Actually, it is too technical for the average practitioner. It is a must in the library of everyone working in physical medicine and also useful as a reference book in medical libraries. The editor is to be complimented for having accumulated all this information together in one excellent reference text.

**THE FUNCTIONAL ORGANIZATION OF THE DIENCEPHALON**—W. R. Hess, M.D., Professor of Physiology, Emeritus, University of Zurich, Zurich, Switzerland. Edited by John R. Hughes, M.A. Grune & Stratton, 1957. New York, London. 180 pages, \$7.00.

This English translation of the work of the Swiss neurophysiologist on the diencephalon is a very creditable job for the editor. It comprises three parts, dealing with autonomic responses, motor responses, and methods. An atlas of points in the diencephalon from which various responses may be elicited by electrical stimulation, with the animal, a cat, free to move about, is presented in great detail. The point is made that responses from the diencephalon are of complex nature. Verification of the stimulation experiments is sought from electrolytically produced lesions made with the same electrodes in place. This is a reference book for the neurophysiologist, and as such is of great value.

HENRY NEWMAN, M.D.

**AN ATLAS OF REGIONAL DERMATOLOGY**—G. H. Percival, M.D., Ph.D., D.P.H., Grant Professor of Dermatology, University of Edinburgh; Physician to the Skin Department Royal Infirmary, Edinburgh, and T. C. Dodds, F.I.M.L.T., F.I.B.P., R.F.P.S., Laboratory Supervisor, Department of Pathology, University of Edinburgh; Head of Photomicrography Unit at Department of Pathology, University of Edinburgh. The Williams and Wilkins Co., Mount Royal and Guilford Avenues, Baltimore 2, Maryland. 264 pages, \$19.00.

Except for a one page preface and the index, this book consists entirely of reproductions in color of photographs of skin diseases. There are 475 pictures on 256 pages. Each picture has a title in bold print beneath it. In addition, almost all of them have from one to five or six lines of comment designed to call attention to important features which the photograph demonstrates. These notes add much to the value of the book as an aid in the diagnosis of diseases of the skin.

The atlas presents representative examples of the "common and less rare" cutaneous disorders, as far as possible in their early developing and fully developed stages. The diseases represented are grouped according to the regions of the body most characteristically involved. There are four regional groupings: Head and Neck, Hands and Arms, Feet and Legs and Trunk and Generalized Eruptions. The authors recognize that most skin diseases may affect any part of

the body and that this regional arrangement involves some duplication. The index enables one to quickly refer to all of the illustrations of a given skin disease even though they may be distributed in different parts of the book. Frequently throughout the book diseases which have morphologically similar lesions are grouped together so that one can compare and contrast, and in so doing note minor but important points of difference. Thus, lichen planus, papulosquamous syphilide, psoriasis and pityriasis rosea are seen on successive pages.

The terminology used to designate some of the diseases portrayed is different than that with which many of us here are familiar. The name infective eczema, for example, is used to cover eczematous eruptions commonly described by American dermatologists under the headings of seborrheic eczema, nummular eczema or infectious eczematoid dermatitis.

The color reproductions are for the most part good and some are excellent. In many, fine detail is not well portrayed.

I believe this atlas will be helpful to most physicians having an interest in skin diseases. Used along with one or more of the standard text books on dermatology it should be of real value to students both in undergraduate and graduate training. Dermatologists will enjoy looking at the pictures and will undoubtedly pick up worthwhile points of differential diagnosis from them and their explanatory notes.

HERMAN V. ALLINGTON, M.D.

**A TEXTBOOK OF CLINICAL NEUROLOGY**—Israel S. Wechsler, M.D. Consulting Neurologist, The Mt. Sinai Hospital, New York. Eighth Edition. W. B. Saunders Company, Philadelphia and London, 1958. 782 pages, \$11.00.

The eighth edition of this standard textbook of Neurology appears just thirty years after the first. It remains one of the most useful books on Neurology for the general practitioner and medical student. The revision has been adequately complete, although one might lament the rather casual treatment of electroencephalography. The approach is that of the clinical neurologist, which has many advantages for those relatively uninitiated in the field. Just as a 1927 motor car cannot be made into a 1958 model by the addition of dual headlights, so this text cannot be considered entirely adequate as a reference work of recent advances in the specialty. For those who want a sound clinical treatment of Neurology the book can be highly recommended.

HENRY NEWMAN, M.D.

**NEURITIS, SENSORY NEURITIS, NEURALGIA**—Robert Wartenberg, M.D., Clinical Professor of Neurology, University of California Medical School, 1958. Oxford University Press, 114 Fifth Ave., New York, N. Y. 444 pages, \$8.50.

It would be hard to find anyone to disagree with the premise that the majority of cases of multiple neuritis are difficult to classify etiologically, and this is the main fact brought out by this posthumous publication of a renowned neurologist who has given us many more worthy books. The volume consists in essence of a series of case histories from the author's files presenting an infinite variety of affections of the peripheral nerves. No clear picture is gained of the relationship of these cases to a definite etiological agent, although voluminous references to the literature regarding similar cases is provided. The one thing to be gained by the practitioner of medicine from reading this book is a realization that it is not possible even for the expert to assign a cause to many cases of peripheral neuritis.

HENRY NEWMAN, M.D.